

County Borough



of Blackburn.

# Annual Report

UPON THE

## Health of Blackburn

For the Year 1923

BY

**W. ALLEN DALEY,**

M.D., B.Sc. (Lond.), D.P.H. (Cambridge), B.A.,

MEDICAL OFFICER OF HEALTH,

ADMINISTRATIVE TUBERCULOSIS OFFICER,

MEDICAL SUPERINTENDENT OF THE CORPORATION HOSPITALS,

SCHOOL MEDICAL OFFICER.

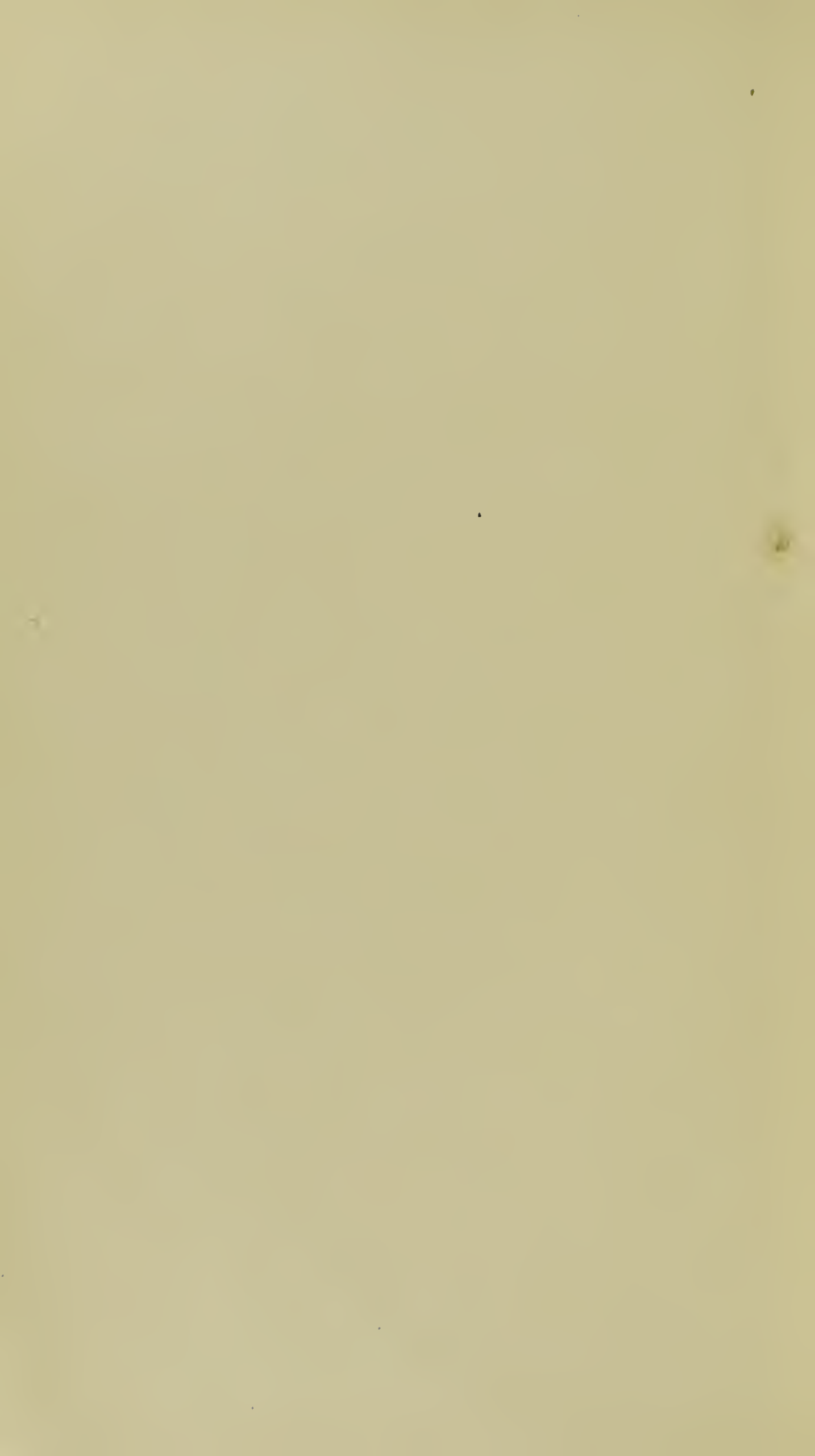
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BLACKBURN :

"The Times" Printing Works, Northgate.







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# Summary for 1923.



Area in Acres .....	7,664
Population at Census of 1921 .....	126,643
Estimated Population, mid-year, 1923 .....	129,000
Number of structurally separate occupied Dwelling-houses in the Borough at Census of 1921 .....	30,948
Average Number of Persons in each Inhabited Building at Census of 1921 .....	4.08
Number of Families or Separate Occupiers at Census of 1921 ...	31,608
Number of Births during 1923 .....	2,094
<i>Legitimate Births</i> : Male, 1,010 ; Female, 995 ; Total, 2,005.	
<i>Illegitimate Births</i> : „ 43 ; „ 46 ; „ 89.	
Birth-rate per 1,000 of the Population .....	16.2
Number of Deaths .....	1,736
Death-rate per 1,000 of the Population .....	13.4
Natural Increase of the Population during the year .....	358
Number of Deaths of Infants (under the age of 1 year) :	
<i>Legitimate</i> , 197 ; <i>Illegitimate</i> , 13 ; Total .....	
210	
Infant Mortality per 1,000 Births :	
<i>Legitimate</i> , 98 ; <i>Illegitimate</i> , 146 ; Total .....	
100	
Number of women dying in or in consequence of Child-birth :	
Sepsis, 5 ; Other Causes, 9 .....	
14	
Deaths from Influenza .....	49
Deaths from Measles .....	6
„ „ Whooping Cough .....	7
„ „ Diarrhœa, under 2 years of age .....	21
Death-rate from the seven principal zymotic diseases :— Smallpox, Whooping Cough, Measles, Diphtheria, Diarrhœa, Scarlet Fever, and “ Fever ” (Typhoid, Enteric, and Typhus), per 1,000 of the Population .....	0.2
Death-rate from Diarrhœa and Enteritis of children under two years per 1,000 births .....	10.0
Death-rate from Phthisis per 1,000 of the Population .....	0.72
Death-rate from all forms of Tuberculosis per 1,000 of the Population .....	0.96

The Rateable Value of the Borough was, for 1923-24 ..... £748,697

In 1923-24 the total Rate in the £ (excluding Water Charges), was 14/8 less discount. For prompt payment it was 13/11.

Sum represented by a penny Rate was £2,800.

The Health Committee's gross expenditure during the financial year ended 31st March, 1923, was £35,856 ; the income was £13,956, making a net charge on the ratepayers of £21,900, or 5 1/6½ gross and 3/4½ net per head of the population.



# Health & Maternity & Child Welfare Committee.

THE MAYOR (ALDERMAN J. T. T. RAMSAY, J.P., L.R.C.P.).  
ALDERMAN J. FIELDING, J.P., Chairman.  
ALDERMAN F. J. GREEVES, J.P., L.R.C.P., Vice-Chairman.  
ALDERMEN—WATSON, SHORROCK, AND KEIGHLEY, M.D.

## COUNCILLORS

BRADLEY, L.R.C.P.  
JAMIESON, M.B.  
SMETHURST  
JOHNSON  
FRYARS  
DUCKWORTH  
CAMPBELL  
HARRISON

MAKIN  
CRITCHLEY  
LOMAX  
HOLDEN  
HEYES  
ODDIE  
GRIMSHAW  
COTTON

with the addition of

MRS. T. CRANE, MISS K. HOWARD, MRS. H. J. HARVEY,  
& MRS. R. Y. AITKEN.

## Staff of the Health Department.

### Medical Officer of Health.

W. ALLEN DALEY, M.D., B.S., B.Sc. (Lond.), B.A., D.P.H.

### Assistant Medical Officer of Health and Tuberculosis Officer.

§ T. N. V. POTTS, M.B., B.S., B.Hy., D.P.H. (until August, 1923).

§ D. C. LAMONT, M.B., Ch.B. (Edin.), D.P.H. (from August, 1923).

### Assistant Medical Officers of Health

§ J. ROBERTSON, M.B., C.M., D.P.H. (until June, 1923).

§ W. M. FRAZER, M.B., Ch.B., M.Sc., D.P.H. (Liverpool), Barrister-at-Law (from July, 1923).

§ Miss LYDIA M. HENRY, M.D. (Sheffield), (until September, 1923).

§ Miss ELLA G. F. MACKENZIE, M.A., M.B., Ch.B. (Edin.), D.P.H. (Birm.), (from October, 1923).

### Veterinary Inspector and Chief Meat Inspector.

E. J. BURNDRED, M.C., M.R.C.V.S., D.V.H.

\*JAMES GRAHAM, Chief Sanitary Inspector.

\*W. H. GOODMAN, Assistant Meat Inspector.

\*O. H. WILLIAMS, Special Inspector for Food & Drugs, etc.

\*H. KENVON, Special Inspector for Factories and Workshops

\*A. LEES, Special Inspector for Drainage Work.

### District Inspectors.

\*J. W. MARGINSON. \*W. WALNE. \*ERNEST SEFTON.

\*H. W. FOWLER, \*T. PICKERING.

### Lady Health Visitors.

§†\*Miss ST. STEPHENS. §†\*Miss LOWE. §\*Miss LANGLEY.

§\*Miss STANANOUGHT, §†\*Miss REDCLIFFE, §\*Miss LEAR.

**Matron, Corporation Hospital:** §†Miss GOLD.

**Matron, Springfield Maternity House:** §††Miss RUSHTON.

### Tuberculosis Nurse:

§†D. LINSLEY (to August).

§†E. NELSON (from August).

### Chief Clerk.

THOMAS FOWLER.

### Clerks.

H. PEMBERTON. §J. R. MARSDEN. H. WALSH.

Miss F. COMBERBACH. §J. MARGINSON. W. PARKER.

### Disinfectors.

J. W. JOHNSON. F. HOLDEN.

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\*Holders of Certificates of the Royal Sanitary Institute.

†Certificated Midwives.

‡Trained Nurses

§ A contribution to the salaries of these Officers is made from Exchequer grants.

# Important Events.

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1. There was no death from Scarlet Fever and only one from Diphtheria. (Pages 37 and 38.)
2. The prevalence of acute infectious diseases was very low. (Page 36.)
3. A Residential Open-Air School for pre-tuberculous children was opened at the Corporation Hospital in May, 1923. (Page 48.)
4. An X-Ray apparatus was installed at the Corporation Hospital in February, 1923. (Page 46).
5. An Orthopædic Clinic was started in March, 1923. (Page 50.)
6. The Springfield Maternity Home was opened in November, 1923. (Page 59.)
7. A new lairage was opened at the Public Abattoir in January, 1923. (Page 34.)
8. A week's intensive campaign of publicity regarding venereal diseases took place in April, 1923. (Page 65.)
9. A special clinic for the treatment of infants infected with venereal disease and their mothers has been established. (Pages 52 & 131.)

*"The public health is the primary asset of the nation's welfare, whether measured by employability and production or by length of days and personal well-being."*—SIR GEORGE NEWMAN in his Annual Report to the Ministry of Health for 1922.

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PUBLIC HEALTH OFFICE,  
BLACKBURN,

April, 1924.

*To the Mayor, Aldermen and Councillors of the County Borough  
of Blackburn.*

GENTLEMEN,

I beg to submit my Fourth Annual Report on the work of the Public Health Department.

*Staff.* There were important changes in the medical staff during 1923. In June Dr. Robertson was appointed Medical Officer of Health of Darwen, in August Dr. Potts returned to Newcastle-on-Tyne as Assistant Medical Officer of Health (Administrative), and in September Dr. Lydia Henry was appointed Dean of King's College for Women, London. The appointments thus vacated were filled by Dr. W. M. Frazer, Dr. D. C. Lamont, and Dr. Ella G. F. Mackenzie. Dr. Frazer is mostly engaged in the School Medical Service, but he devotes one half-day per week to Maternity and Child Welfare and is also occupied in general administrative work. Dr. Lamont resides at the Corporation Hospital and is also Clinical Tuberculosis Officer. Dr. Mackenzie spends two sessions per week in school medical work, three in the treatment of venereal diseases in women and children, and six in Maternity and Child Welfare work.

*The Census.* The Lancashire section of the Registrar-General's report on the census of 1921 was published during 1923. The following are the noteworthy features concerning Blackburn:—

The Census was taken on the night of the 19th-20th June, 1921. This date is several weeks later than that of previous Censuses and owing to the fine weather the holiday movement had already set in. The populations of holiday resorts were, therefore, inflated at the expense of those of industrial areas.

The persons enumerated in Blackburn on the night of the census numbered 126,643 compared with 133,052 in 1911. The decrease was 6,409 or 4.8%. The Blackburn percentage decrease was greater than that in any other County Borough in the country. Bury and Burnley show the next greatest reductions, namely, 4.5% and 3.4% respectively. Taking Lancashire as a whole, the population increased between 1911 and 1921 by 170,840, or 3.6%. The greatest increases were in Liverpool, Blackpool, Manchester, Barrow, and Southport. The population of Blackburn at each census has been :—

1841	.....	36,629
1851	.....	46,536
1861	.....	63,126
1871	.....	76,339
1881	.....	104,014
1891	.....	120,064
1901	.....	129,216
1911	.....	133,052
1921	.....	126,643

The births exceeded the deaths during the years 1911-21 by 3,891, but the deaths do not include those who died abroad during the war. The total loss of population in the ten years by migration and deaths abroad was therefore 10,300.

The proportion of females to males, 1,197 to 1,000, is greater in Blackburn than in any other industrial town in Lancashire. It is exceeded only by Southport, 1,413, and Blackpool, 1,366 females to 1,000 males. The actual excess of females in Blackburn is 11,349 persons.

The returns with regard to housing are of special interest. There were 145 buildings in course of erection, 2,499 completed buildings not containing dwellings—for example, lock-up shops, churches, and offices—and 31,500 completed buildings containing dwellings: 29,126 were private dwelling-houses, and 2,245 were shops over which were rooms used as dwellings.

Excluding institutions there were 31,425 structurally separate dwellings, of which 477 were vacant on the night of the census; 30,405 structurally separate dwellings were occupied each by one family, 486 by two families each, and 57 by three or more families.

Seven per cent., or 2,125 of the 30,948 occupied dwellings, consisted of one to three rooms; 25,594, or 83%, of four or live rooms; 2,976, or 9%, of six to eight rooms; and 253, or 1%, contained nine or more rooms. Sculleries and bathrooms are not counted as rooms.

The total number of rooms in the 31,425 structurally separate dwellings occupied by private families or vacant was 139,481. This is 1.11 rooms per person enumerated on the census night. The returns for all the Lancashire towns are as under :—

	Rooms per Person.
Southport .....	1.32
Blackpool .....	1.28
BLACKBURN .....	1.11
Bury .....	1.11
Burnley .....	1.06
Rochdale .....	1.05
Preston .....	1.04
Manchester .....	1.04
Bolton .....	1.01
Oldham .....	1.00
Liverpool .....	0.98
Barrow-in-Furness .....	0.98
Salford .....	0.97
Bootle .....	0.95
Warrington .....	0.91
Wigan .....	0.87
St. Helens .....	0.79

The method of estimating overcrowding used by the Registrar-General is the percentage of the population living more than two to a room. The Blackburn percentage of 3.9 is the best in the county. In 1911 the percentage was 4.4, and was better only in Southport and Blackpool.

The size of the average Blackburn family has been reduced from 4.26 persons in 1911 to 3.91 in 1921.

The increase in the number of dwelling-houses between 1911-1921 was 698, or 2.3% only, and is the smallest of the Lancashire towns of which particulars are given. The number of families increased, however, by 1,085, or 3.6%. This is the lowest in the county, except for Rochdale, where it was 2.7 only. The Registrar-General, for the purpose of enabling comparisons of housing sufficiency to be made between



one area and another, has taken as his standard the average number of rooms per person in England and Wales found at the census of 1911, a correction being made to provide for variations in the average sizes of the families in different areas. Judged by this standard Blackburn had a shortage on the night of the census of 5,642 rooms; Bolton was 16,400 rooms short; Burnley, 8,198; Bury, 3,505; and Preston 6,364, while Blackpool had a surplus of 7,014 and Southport a surplus of 8,565.

The figures giving the population in the different wards are of interest, and are given in Appendix 1 (Page 71). The only ward which shows an increase of population since 1911 is St. Stephen's. St. Mary's Ward has the greatest room congestion, and St. Mattheew's the greatest number of persons per acre. There is not a single ward in Blackburn where the average number of rooms per person is less than one. This occurs in no other Lancashire County Borough, with the exceptions of Southport and Blackpool. The table in the Census Report giving the number of persons at each age shows that there were two men and nine women over ninety years of age, the oldest being a woman of 93.

The tables showing occupations are very full, the total number of scheduled occupations being 999: 41,736 males and 33,416 females aged 12 years and over are engaged in one or other of these 999 occupations. This is apart from those receiving instruction at a school or college, which is not included in the list of occupations. The number of men employed in agriculture has increased since 1911 from 501 to 545, while miners have decreased from 505 to 329.

Although Blackburn still has a larger number of textile workers than those enumerated in any other Lancashire town, yet there has been a very serious decrease since 1911, namely, from 15,896 to 11,701 men, and from 25,913 to 24,999 women. The following Table shows the textile workers in 1921 in the cotton towns of Lancashire:—

TEXTILE WORKERS (all classes) :

<i>Town.</i>	<i>Males.</i>		<i>Females.</i>		<i>Total.</i>
BLACKBURN .....	11,701	...	24,999	...	36,700
Bolton .....	13,668	...	19,807	...	33,475
Burnley .....	11,734	...	20,217	...	31,951
Oldham .....	13,504	...	20,760	...	34,264
Preston .....	6,523	...	17,084	...	23,607

## WEAVERS (excluding Foremen).

<i>Town.</i>	<i>Males.</i>		<i>Females.</i>		<i>Total.</i>
BLACKBURN .....	5,535	...	17,788	...	23,323
Bolton .....	395	...	5,027	...	5,422
Burnley .....	7,445	...	16,327	...	23,772
Oldham .....	193	...	2,886	...	3,079
Preston .....	1,622	...	12,063	...	13,685

## SPINNERS AND PIECERS (Mule, Ring, Cap and Flyer).

<i>Town.</i>	<i>Males.</i>		<i>Females.</i>		<i>Total.</i>
BLACKBURN .....	849	...	1,101	...	1,950
Bolton .....	6,168	...	1,436	...	7,604
Burnley .....	271	...	575	...	846
Oldham .....	7,587	...	2,877	...	10,464
Preston .....	1,298	...	715	...	2,013
Rochdale .....	2,028	...	2,023	...	4,051

## CARD, COMB AND FRAME TENTERS (not Ring, Cap or Flyer Frame) :

## BOX MINDERS.

<i>Town.</i>	<i>Males.</i>		<i>Females.</i>		<i>Total.</i>
BLACKBURN .....	433	...	1,048	...	1,481
Bolton .....	252	...	4,856	...	5,108
Burnley .....	43	...	388	...	431
Oldham .....	208	...	6,787	...	6,995
Preston .....	167	...	1,177	...	1,344
Rochdale .....	146	...	2,593	...	2,739

## WINDERS, REELERS, BEAMERS, AND WARPERS.

<i>Town.</i>	<i>Males.</i>		<i>Females.</i>		<i>Total.</i>
BLACKBURN .....	714	...	4,187	...	4,901
Bolton .....	109	...	3,352	...	3,461
Burnley .....	350	...	2,392	...	2,742
Oldham .....	146	...	4,710	...	4,856
Preston .....	58	...	1,969	...	2,027
Rochdale .....	248	...	3,031	...	3,279

The number of female domestic indoor servants has declined since 1911 from 1,567 to 1,142.

A notable feature of the Blackburn Census Return is the very large number of married women who are occupied industrially, namely, 11,560 in 1911 and 11,553 in 1921. The number of married women employed in cotton mills has increased from 9,448 in 1911 to 9,684 in 1921: that of widows from 892 to 1,384, and that of single women has been reduced from 15,573 to 13,931. The change undoubtedly has been caused by the war. Blackburn has more married women employed industrially than any other Lancashire town, namely, 56% of those under 44 years and 22.9% of those over 44. Taking the county as a whole 20% of the married women under 44 were employed and 10.9% of those over 44.

A comparatively small number of the inhabitants of Blackburn were born outside England, namely, 180 males and 337 females in Wales: 298 males and 405 females in Scotland: 562 males and 827 females in Ireland: 96 males and 131 females in the Colonies, and 166 males and 158 females in foreign countries. The total number of foreigners, 324, includes 134 born in the United States of America and 50 in Russia.

The last Table in the Census Report makes pathetic reading. There are 2,487 children in the town whose father is dead, 720 whose mother is dead, and 192 who have lost both parents. These do not include the Orphanage figures as that Institution is outside the Borough boundary.

*Population.* The Registrar-General has endeavoured to make the Census figures for industrial towns more accurate by distributing to other parts of the country those persons enumerated at holiday resorts who stated in the Census papers that they were "visitors." His estimate of the population of Blackburn at mid-year, 1921, was 129,400. In July, 1922, the estimated population of the original area was 129,300, but on the 1st October, 1922, portions of the parishes of Livesey and Ramsgreave were added to the town and the estimated population was increased by 300. The Registrar-General is of opinion that the population is declining, and his estimate of the population for 1923 is 129,000: this is probably an under-estimate, and if so the birth and death-rates will be made to appear higher than they really are.

*Meteorology.* (See Appendix 2, Page 72). The year was characterised by an almost complete absence of summer weather and by the heaviest rainfall experienced since the records began to be taken in 1880. The average rainfall in the nine gauges in the town was 56.50 inches. Previous records were:—1882, 52.32 inches; 1918, 52.21 inches. The winter months were milder than usual.



*State of Employment and Poor Relief.* Trade showed a slight improvement during the year. At the beginning, the number of persons belonging to insured trades who were in receipt of unemployment pay was 14,121. It declined to 8,358 in February, increased to 12,974 in April and continued above 10,000 until August, when it dropped to 8,893. It fluctuated between 8,000 and 9,000 until on the 3rd December the minimum number was recorded, namely, 7,387. The maximum number of unemployed was in May, 1921, when it reached the enormous total of 33,115.

The residents of the Township of Blackburn who were in receipt of Poor-Relief on the 1st January, 1923, numbered 3,339 (1,220 families): on the 1st July, 1923, they numbered 2,892 persons, and on the 1st January, 1924, 3,028. The number of Blackburn persons relieved in the Institution on the 1st January, 1924, was 805, compared with 683 twelve months before, and 700 at the beginning of 1922. There were 81 children in the Cottage Homes on the 1st January, 1924. During the twelve months ended the 30th September, 1923, the expenditure on out-relief was £43,243, compared with £54,620 during the preceding year, and £20,860 in the year before that. It is gratifying that, despite the prolonged depression in the cotton trade, the proportion of the population in receipt of Poor Law relief was much less than throughout the country as a whole. For the quarter ended 30th September, 1923, the total number in receipt of relief per thousand of the population in the Blackburn Union was 21.4 compared with 33.6 throughout England and Wales, and 39.9 in the populous urban areas, excluding London. In the preceding quarter the figures were 20.8 Blackburn, 33.3 England and Wales, 38.6 populous urban areas.

An evidence that the tide has turned is shown by the Share Capital and the Small Savings Department Account of the Co-operative Society having increased during 1923 by over £30,714, compared with £10,090 during 1922. The increase in the funds of the Blackburn Savings Bank during 1923 was £73,987.

*Hospital Accommodation.* The Blackburn and East Lancashire Royal Infirmary is still working at high pressure and the patients who received treatment there are in excess of those dealt with in any previous year. The daily average number of beds occupied was 156.1, and as the accommodation in the Hospital has up to now been regarded as 152 it is obvious that the need for extension is urgent. A wing to contain accommodation

for 90 additional patients is now being erected as part of the Blackburn War Memorial.

There was no spare accommodation at the Queen's Park Hospital of the Board of Guardians, where the Blackburn Township cases numbered 192 at the beginning of the year and 231 at the end. An extension of this hospital also is under consideration.

The Blackburn Convalescent Home is situated at St. Annes-on-Sea. The number of cases dealt with in 1923 was 529, compared with 464 in 1922.

Appendix 3, Page 74, gives the information desired by the Ministry of Health with regard to clinics, domiciliary nursing, hospitals and ambulances.

*The Blind.* The scheme for promoting the welfare of the blind, prepared in accordance with the provisions of the Blind Persons Act, 1920, is administered by the Medical Officer of Health. It was put into operation on the 1st November, 1921. "The Blackburn and District Workshops for the Blind" have had many difficulties to contend with during the year, as it was almost impossible for them to sell skips, the making of which has up to now been the most remunerative occupation for male workers. The recently established brush department is growing, and it now provides work for eight men and youths. The register of the blind has been brought up to date, and particulars of the ages, employment of the blind, and the age of onset of the blindness are given in Appendix 4 (Pages 77 and 78). There are 208 blind persons in the town, and it is gratifying that there is not a single blind child under five years of age. Thirty-five of the adult blind have been blind from early infancy. This prevention of blindness is one result of our Maternity and Child Welfare work.

## VITAL STATISTICS.

*Marriages.* The number of marriages solemnised in the town was 1,064, compared with 1,084 during 1922: the marriage-rate was 16.5 per 1,000 of the population.

*Births.* The births registered were 2,005 legitimate and 89 illegitimate: the total, 2,094, is a birth-rate of 16.2 per 1,000 of the population,

compared with 16.8 in 1922 and 19.5 in 1921. Throughout England and Wales the birth-rate was 19.7 in 1923, 20.6 in 1922, and 22.4 in 1921.

Illegitimate births in Blackburn were 4.2% of the total, compared with 4.5% in the previous year.

The total male births numbered 1,053, the female 1,041, being a proportion of 1,006 male to 1,000 females: the war-time preponderance of male births has now declined to less than the normal excess of male births, which is 1,041 male to 1,000 female births.

The figures relating to births and deaths are net figures: births of children of non-residents have been excluded, as have the deaths of persons not normally resident in the town. The figures include the deaths of all residents, even though they died in other parts of the country.

*Deaths.* The deaths numbered 1,736, compared with 1,843 last year, 1,655 in 1921, 1,786 in 1920, and 2,008 in 1919. For 1923 the death-rate was 13.4, and compares with 14.2 in 1922 and 12.7 in 1921. The average death-rate in Blackburn during the decennium 1913-1922 was 15.3 per 1,000. With the exception of the year 1921 the death-rate for 1923 is the lowest recorded. The death-rate for England and Wales in 1923 was 11.6 and in 1922, 12.9. Appendices 5, 6, and 7 (Pages 79 to 81) give statistical details.

*Natural Increase.* The excess of births over deaths was 358, or 2.7 per thousand of the population, compared with 334 or 2.5 per thousand in 1922.

*Ward Distribution.* Appendix 8 (Page 82) gives the vital statistics for the Wards. St. Mary's again has the highest death-rate, 18.3, but this is much lower than in 1922, when it was 20.5; Trinity Ward this year has the second highest, 16.5; and St. Andrew's, with a rate of 16.1, is third.

*Causes of Death.* Appendix 7 (Page 81) gives the principal causes of death in each year since 1913. It will there be seen that the chief contribution to the lower death-rate in 1923 is a reduction in the deaths from organic heart disease (55 less than in 1922), measles (26 less), and influenza (23 less). On the other hand cancer and kidney disease each caused 14 more deaths in 1923 than in 1922. Pneumonia was the registered cause of death in 16 cases more than in 1922, but this is offset by a decline of 15 deaths from bronchitis.

*Male and Female Death-Rates.* There were 869 deaths of males and 867 of females : these being death-rates per 1,000 of 14.8 males and 12.2 females. Influenza caused 31 deaths of males and 18 of females ; consumption of the lungs, 55 males, 38 females ; bronchitis and pneumonia, 232 males, 186 females ; congenital weakness, 62 males, 38 females. On the other hand cancer caused the deaths of 78 males and 99 females : heart disease, 66 males, 100 females ; senile decay, 41 males, 70 females.

*Deaths amongst Cotton Operatives.* Now that the returns of the 1921 Census are available it is possible to continue the valuable statistical tables on the death-rates of cotton operatives which were published by my predecessors, and in connection with that I submit a memorandum which I have prepared on the vital statistics of cotton operatives with special reference to the effect of artificial humidity on the health of weavers :—

“ The most satisfactory method of determining the influence of artificial humidity on health would be to ascertain the amount of sickness over a period of years amongst several thousand operatives who work in humid atmospheres and compare it with the amount amongst a similar number of operatives of the same sex and approximately the same ages who, over the same period, performed exactly similar work in mills which were not subject to artificial humidification. They should all live in the same town and be subject, outside the factory, to the same environmental conditions. The difficulties attending such an enquiry are so great that, except on a small scale, it has never been undertaken, although Mr. Wyatt states in the 21st Report to the Industrial Fatigue Research Board that the matter is under consideration. An obstacle to a correct result is the difficulty of differentiating between absence due to genuine sickness and absence for domestic reasons such as the case of a married female weaver who stayed at home to care for a sick child.

We are, therefore, forced to consider the question as it presents itself in the death-returns, and for that purpose I attach several series of statistics.

The first Table, Appendix 9 (Page 83) shows for the Lancashire cotton towns the census population and the proportion of textile workers : the death-rates for the four years 1920, 1921, 1922, and 1923, and for the four years together are set out separately. The general death-rates given in this Table apply to all the inhabitants of the towns concerned and depend probably more on environmental conditions and the activity or otherwise of the Sanitary Authorities concerned than on humidification



or non-humidification of the mills in which a varying proportion of the inhabitants spend some 50 hours of the 168 which there are in a week. The figures do show, however, that the worst statistics are for Oldham, a typically dry town.

The Table also gives for the five largest cotton towns the expectation of life for males based on the mortality during 1911 and 1912: these are the latest figures issued by the Registrar-General, and it must be remembered that the humidification of weaving sheds was not limited until 1912: the expectations of life are given for the age of 15 years so as to eliminate high death-rates of young children.

Appendix 10 (Page 84) enables us to compare the comparative mortality figures amongst males engaged in cotton manufacture with those of all occupied and *retired* males in England and Wales. Figures for occupied males only are not published. These figures, again, although the latest published, deal with the years 1910-12: similar figures relating to operatives who have worked under the present regulations for limiting humidification are not available. The 1910-12 figures show, however, that the deaths amongst cotton operatives are very little greater than those amongst all occupied and *retired* males, namely, 811 compared with 790: figures for 1900-2 are also given and comparison of the two periods shows that the deaths amongst cotton operatives are declining at a greater rate than are those of all males and that such excess, as there is, is due principally to bronchitis (cotton operatives 55, all males 37) and to diseases of the blood vessels (cotton operatives 101, all males 77): the reasons for these are not clear.

Appendix 11 (Page 85) extracted from the same report of the Registrar-General as Appendix 10 gives the age distribution of the deaths and also separate figures for cotton strippers and grinders and cotton blowroom hands: all dusty occupations. It must be noted, however, that vacuum extractors have been introduced since 1912, the last year to which these figures relate. The salient features of this Table are:—

1. Cotton operatives *as a whole* have a low death-rate from consumption of the lungs but it is prevalent in strippers, grinders and blowroom hands over 45 years of age.
2. Non-tuberculous diseases of the lungs and diseases of the blood-vessels are in excess in all cotton operatives after 55 years of age and in strippers, grinders and blowroom hands after 45 years.

Appendix 12 (Page 86) is probably the most valuable. It gives the deaths during 1920-21-22 of four groups of Blackburn cotton operatives, namely :

Weavers,  
Spinners and piecers,  
Winders, warpers, etc.,  
Cardroom hands.

The figures are given for each sex separately and differentiation is made between the actual and retired operatives.

The Census figures give us the numbers actively engaged in each of these branches of cotton manufacture, and the death-rates for these are given as well as the actual numbers of deaths. There are 6,289 male weavers, including foremen, 17,788 female weavers, 1,101 female spinners, 4,187 female winders, and 1,048 females engaged in the cardrooms, so that the figures are sufficiently large in at least these groups to enable us to draw fairly sound conclusions. The operatives all live in Blackburn, and outside the mill are subject to the same environmental and general conditions of life : further, the statistics are recent and apply to the years since the present regulations regarding humidity and ventilation have been in operation. The figures show that female weavers have the best vital statistics, namely, 3.3 per 1,000 per annum. The principal figures are :—

DEATH-RATES PER 1,000 EMPLOYED FROM ALL CAUSES, 1920-22.

	<i>Both-Sexes.</i>		<i>Male.</i>		<i>Female.</i>
Weavers .....	4.2	...	6.9	...	3.3
Spinners .....	9.6	...	*	...	5.7
Winders, Warpers, etc.	8.3	...	*	...	6.7
Cardroom hands .....	7.0	...	*	...	4.8
Whole Borough .....	14.1	...	15.4	...	13.1

\* Figures based on populations of less than 1,000 are not reliable and therefore are not given here : the combined death-rate per annum of male spinners, winders, warpers and cardroom hands is 15.0 per 1,000.

Appendix 12 shows the principal causes of death, and it will be seen that except for an entire absence of deaths from non-tuberculous lung diseases amongst female spinners, the weavers have for each group of diseases the lowest death-rates as well as for all causes together. The

figures corroborate those of my predecessor, Dr. Greenwood, who gives the following death-rates for the period of 24 years, 1889-1912 : he does not differentiate between the sexes for this period :—

	DEATH-RATES.	
	1889-1912.	1920-22.
Weavers .....	6.3	4.2
Spinners .....	15.0	9.6
Winders, warpers, etc. ....	7.7	8.3
Cardroom hands .....	10.1	7.0
Whole Borough .....	14.2	14.1

This shows that the low death-rate amongst weavers during 1920-22 is not an accidental occurrence but has been in existence for very many years.

It is impossible to analyse completely the different factors which have contributed to this result. I have considered a possible fallacy due to the fact that the figures I give deal only with those whose deaths follow immediately after active work in the mills. A column has been introduced in Appendix 12 showing the deaths of those who are returned as “retired” cotton operatives : working the total deaths of the active and retired workers on the populations enumerated as active workers at the Census does not alter the relative positions of the occupations : these rates are :—

	<i>Males.</i>	<i>Females.</i>
Weavers .....	11.1	3.6
Spinners .....	(31.3)	6.0
Winders, etc. ....	(22.8)	8.4
Cardroom workers .....	(18.5)	5.4

The figures in brackets are based on populations under 1,000. The lowness of the female rates is probably due to a married weaver or winder ill at home for many months before her death being classed as a housewife and not as a retired operative : but the relative positions of female weavers, winders, etc., would not be affected by this, which would apply to all married female operatives alike.

The only other fallacy which might vitiate these figures is that of change from occupation to occupation. If a man starts as a weaver, works at this occupation for many years, then becomes a clothlooker or a labourer and dies a few months after the change, his death would be

classified as that of a clothlooker or labourer, but my enquiries lead me to believe that there is little change amongst the male operatives and very little amongst females except perhaps from weavers to winders, although a few of the more ambitious ones leave the cotton industry altogether and become milliners, confectioners, etc. The numbers who leave do not appear to be sufficiently large to affect the statistics appreciably, and as they leave other branches of the cotton industry as well as weaving this factor would to some extent apply to each group.

The conclusion from these figures is that, so far as the death-rates show, weaving in humid sheds such as there are in Blackburn is healthier than the other branches of cotton manufacture as carried out in this town.

The reason is not obvious: I can only conjecture that it may be due to the small amount of dust which is to be found in these humid atmospheres."

#### SANITARY CIRCUMSTANCES OF THE DISTRICT.

*Closet Accommodation.* The following Table compares the number of each type of convenience in December, 1923, with the preceding three years. The Table includes for 1923, but not for 1922, the pail closets, but not the privies, in the area added to the Borough on the 1st October, 1922.

	1920.	1921.	1922.	1923.
Privies .....	76	65	65	31
Pail Closets .....	9,253	4,850	109	158
Slop-water Closets .....	2,541	2,526	2,473	2,446
Fresh-water Closets ....	26,487	31,085	35,929	36,059
	<hr/>	<hr/>	<hr/>	<hr/>
	38,357	38,526	38,576	38,694
	<hr/>	<hr/>	<hr/>	<hr/>

Altogether 8,948 pail closets have been converted to fresh-water closets since 1920. During 1923 a subsidy of £4 was paid to any owner who would convert a pail or slop-water closet voluntarily and this was paid in respect of 9 pails and 30 slop-water closets; 43 privies have been converted, at the owners' expense, to fresh-water closets.



New sewers, 1,317 yards in length, have been laid. A long-standing nuisance at Seven Acre Brook has been abolished. Owing to the contour of the land no sewer was available and filthy privies were the only sanitary accommodation for 17 houses. The Borough Engineer, A. T. Gooseman, Esq., M.Inst.C.E., prepared and carried out a drainage scheme leading to a septic tank and filter-bed: the 17 houses are now all provided with fresh-water closets.

*Lavatory and Urinal Accommodation.* There are in the centre of the town two public conveniences and lavatories for each sex. Sanitary conveniences are provided for each sex at the Parks and the Cemetery; in addition there are 19 public urinals for men.

*Collection of Refuse.* There are still 8,900 fixed ashpits and 13,894 ash-tubs in the town. Most of the ash-tubs have no cover, and are so large that when they are full the scavengers cannot lift them into the dust carts. A very desirable sanitary reform would be the substitution of covered galvanised iron ashbins for the ashpits and ash-tubs. This would avoid the insanitary practice of emptying the refuse on to the street and shovelling it into the dust carts. It is hoped that during 1924 a scheme will be adopted under which every house will be provided with a galvanised iron bin of standard size. During 1923, whenever a tub was worn out an endeavour was made to make the owner provide an ashbin instead of a new tub. The Cleansing Department of the Corporation keep a stock of ashbins, and during 1923, 952 were sold at cost price, which fell during the year from 9/- to 8/- each. During the year 450 notices to repair ashtubs were dispatched. One hundred and sixty-seven ashtubs were repaired, 9 replaced by new tubs and 274 by ashbins. There are now 3,962 standard iron bins in the town and 566 galvanised iron back bins.

*Water Supply.* The average daily consumption of water was 3,960,556 gallons, compared with 3,902,899 gallons in 1922. The estimated water population was 139,000. The average consumption per head per day was 28.39 gallons. The water was examined chemically and bacteriologically every month and was found to be of satisfactory quality.

## SANITARY INSPECTION OF THE DISTRICT.

*Nuisances.* A statistical summary of the work done by the Chief Sanitary Inspector and his assistants will be found in Appendices 13 to

15 (Pages 87 to 92). The number of complaints by inhabitants declined from 345 in 1922 to 271 in 1923. It is gratifying that no less than 3,674 nuisances were abated or defects repaired without resort to the Police Court. It must, however, be pointed out that 132 personal letters had to be written to those who had failed to act upon a statutory notice, and the Inspectors had in many cases to call upon the owners of property and explain that prosecution would follow immediately if the work were not put in hand at once. There were 228 outstanding notices at the end of the year.

Nuisances dealt with and remedied during the year include two of river pollution and five of flooding of small districts after heavy rain.

*Housing.—Old Houses:* Considerable attention was paid during the year to the best method of dealing with six groups of old property in Brunswick Street and neighbourhood, Nab Lane, Water Street and Old Chapel Street, Bradshaw Street, Bolton's Court and neighbourhood, and Joiner's Row and neighbourhood. The 161 premises concerned housed 188 families consisting of 479 adults and 221 children. Nearly all were very poor and would be unable to afford the rents of Corporation houses. The houses are in small groups scattered throughout the town: the largest—the Brunswick Street area—containing only 80 houses. In each area there is an occasional house which has been kept in a fair sanitary condition, and in the Brunswick Street area the streets are fairly wide. Two of the groups, Water Street and Bolton's Court, are in the centre of the town and the sites would be valuable for business purposes. The owners of most of these houses desire to evict the tenants and use the premises or the sites for warehouses, garages, offices or shops. They cannot do so as the tenants have security of possession under the Rent (Restrictions) Acts. The other four groups are in the less central parts of the town. It was considered carefully whether or not the position could best be met by making an Improvement Scheme under Part I. of the Housing Act of 1890. We had the advantage of the advice of a Housing Inspector of the Ministry of Health and a draft "Official Representation" was prepared.

The inclusion of these areas in an Official Representation would involve acquisition of the sites and demolition of the property. Nothing would be paid for the buildings, compensation being limited to the market value of the land cleared of buildings and the market value of the land would be reduced according to the use to which the land was to be put by the Local Authority (Section 9, Housing and Town Planning Act,

1919). When it was rumoured that the houses were to be demolished protests were received from tenants and owners alike! After most anxious consideration I came to the conclusion, which was supported by the Sub-Committee concerned :—

(1) That it is inopportune at present to proceed with any scheme which involves compulsory purchase and clearance of buildings on the six small areas concerned for the following reasons :—

(a) None of the areas is in itself big enough to warrant the procedure contemplated by Part I. of the Housing Act of 1890.

(b) That Act was designed primarily to deal with congested areas, and in the areas concerned the streets are wide and in most of them, particularly the Brunswick Street Area, there is plenty of land at the back.

(c) In all the areas there are some isolated houses and business premises which are in a satisfactory sanitary condition. It would be inequitable to attempt to obtain possession of them at site value, and it would make the scheme most expensive if they were purchased at market value of the buildings.

(2) That notices under the Housing Acts should be served on the owners, except those referred to in Paragraph 3, requiring them to repair their property, their attention being drawn to the resolution of the General Purposes Committee of August 15th, 1921, under which they will be given an undertaking that if the repairs are effected the houses will not be closed as unfit for human habitation for a term of years.

(3) That the houses which are absolutely beyond repair be closed and subsequently demolished as soon as the housing shortage is a little less acute.

By the above method the Corporation will not be involved in any expenditure. The owner who has endeavoured to keep his property in fair repair will not be penalised, and in due course the worst houses will disappear.

During the year three inhabited houses which had become dangerous were closed under the Blackburn Improvement Act, 1882 : they were not in the six groups mentioned above. It was, however, impossible to get the tenants out, and they remain in possession at their own risk. Closing orders were also made for two unoccupied houses. Nineteen

demolition orders were made under the Blackburn Improvement Act. They were all for premises closed some years ago; the property was very dilapidated and a harbourage for rats and filth. Their demolition will improve the access of light and air to adjoining houses.

*New Houses.* Only 16 new dwelling-houses were completed during 1923. All were built by private enterprise without State subsidy. At the end of the year 122 houses were in course of erection—80 by the Corporation and 42 by private builders. The whole of the former and 4 of the latter are State-aided.

Up to the end of 1923 the number of Corporation houses completed was 176, 40 of which were on the Intack site and the others at Green Lane. The rents of the Corporation houses are :—

Parlour Type, with Bay Window .....	12/- a Week.
Parlour Type, without Bay Window .....	11/6   ,,
Non-Parlour Type .....	9/-   ,,

Rates are payable in addition.

A number of cottage flats are to be erected on the Intack site. The accommodation will consist of a living-room, scullery, larder, coal place, bathroom, containing W.C., and two bedrooms. The rent will be somewhat less than that of the non-parlour cottage, and will meet the needs of old couples or widows with only one or two children.

At the end of the year the number of applicants on the waiting list for Corporation houses was 322.

*Certificates under the Increase of Rent, Etc., Acts.* In 6 cases tenants alleged that their houses were not in all respects reasonably fit for human habitation, and applied for certificates under the Increase of Rent, etc., Acts; in all 6, after inspection of the houses, a certificate was granted, and in every instance the owner effected the necessary repairs on our sending to him a copy of the certificate. It is very seldom that the tenants have adopted the statutory procedure of using our certificate in the County Court in order to avoid payment of the increased rent allowed by the Act.

*Common Lodging Houses.* There are 15 registered common lodging-houses, which provide accommodation for 565 persons. These have been



regularly visited and no case of overcrowding has been found. The bye-laws have been fairly well observed, and there has been no occasion to take legal proceedings.

*Houses Let in Lodgings.* The Register contains particulars of 63 houses let in lodgings. The registered accommodation is for 616 adults and 162 children. Weekly inspections have been made, and the bye-laws have been fairly well kept, but it requires constant effort on the part of the Inspectors to see that these houses are kept clean. Greater facilities are required in many of them for the promotion of personal cleanliness, cooking, storage of food, and closet accommodation. The Model Bye-laws under the Housing Act of 1919 are about to be adopted.

*Tents and Vans.* At the time of the Easter Fair a large number of vans come into the town, and they and their occupants are inspected daily. Owing to the housing shortage a number of vans are being placed on vacant land in different parts of the borough, and are used as dwelling-houses. The sanitary arrangements and the means of providing pure water and disposing of the refuse are in some instances quite unsatisfactory. An endeavour is being made to obtain better control of these dwellings by bye-laws made under the Housing Act of 1885.

*Smoke Nuisance.* Records of atmospheric pollution have, by the kindness of the Gas Department, been kept since February, 1922. One gauge is placed on the balcony of the Technical College, in the centre of the town, and another in the grounds of the Corporation Hospital, some 200 feet above the town. The rain water collected in the gauges is filtered and the deposit is analysed each month at the Technical College by G. W. F. Hoyroyd, Esq., M.A., F.I.C. Appendix 16 (Page 93) gives the detailed results.

In the town the total deposit varied from 12.18 metric tons per square kilometre (31.18 English tons per square mile) in March to 34.46 metric tons (88.21 English tons per square mile) in August. At the Corporation Hospital the best months were August and November, 4.93 metric tons during each month, and the worst September, 15.38 metric tons.

The Committee on the Investigation of Atmospheric Pollution classify the results obtained in different towns into four groups, "A," "B," "C," and "D," "A" being the best. The scores for the Technical College gauge are: "A" none, "B" three, "C" five, "D" four.

At the Corporation Hospital "A" was scored three times, "C" once, and "B" for the other months. The records show that the atmospheric pollution was worse during 1923 than during 1922.

An Owen's automatic air filter on the balcony of the Technical College records four or five times every hour the suspended impurity in the air. The results are similar to those of last year. There is a low pollution during the night, with a minimum about 3 a.m. The maximum pollution is about 8 a.m. It declines a little until 11 a.m., and is steady then until 9 p.m., when it decreases rapidly until midnight. That the domestic fire is a large contributor to the atmospheric smoke cloud is shown by the fact that on Sundays the extent of the pollution is about the same as on week-days, but the rise commences two or three hours later. A moral to be drawn from these figures is that as night air is the purest, windows should be opened widely at night.

There are 183 factory chimneys in the town, 93 of which are provided with smoke-consuming appliances. Fifty-three smoke observations, each of an hour's duration, have been taken, and in 23 black smoke was emitted in excessive quantities. Eighteen informal and 5 statutory notices were issued during the year. The increasing use of gas and electricity for heating power and light will improve the unsatisfactory condition of the atmosphere and consequently the high incidence of fatal lung disease.

During 1923, 1,896 new gas cookers and 495 gas fires, boilers, etc., were supplied by the Gas Department, the total number of gas cookers and heating appliances being now 41,972.

Three cotton mills were "electrified" during 1923, and in three others electrification was in progress at the end of the year. Twelve mills are now taking the whole of their power requirements from the Borough Electricity Department.

*Factories, Workshops, and Workplaces.* Workshops and workplaces are mainly under the supervision of the Sanitary Authority. Factories are inspected by H.M. Inspector of Factories: 1,860 visits were paid during 1923 by Sanitary Inspectors to workshops and workplaces, of which there are approximately 800. Many of the workshops on the register do not now come within the definition of "workshop," as, owing to slackness of trade, the occupier is the only person employed. They have, however, been visited along with the rest, as it was considered necessary to see that the sanitation of the premises was not

neglected. Many boot-makers and bakers' workshops have become factories owing to the installation of electrically-driven labour-saving machines, and this has somewhat reduced the number of workshops to be visited by the Sanitary Inspectors, but it has been more or less equalised by the factory bakehouses being included in the list of premises to be visited by officers of the Sanitary Authority. Nine notifications of insanitary conditions in workshops and eleven in factories were received from H.M. Inspector of Factories. In all cases the matters complained of have been rectified.

Six factories were reported to have insufficient sanitary accommodation, and in five factories the sanitary conveniences were not disconnected from the workshops. In all the factories save one the work required has already been done.

*Sanitation of Places of Public Entertainment.* Special attention is paid to these buildings. The plans of all alterations and of all new buildings are submitted by the Clerk to the Justices or by the Borough Engineer to the Health Department before they are approved. By this arrangement it is possible to get improved lighting and ventilation installed during the alterations.

During the year 1923 extensive alterations have been carried out to two picturedromes, and in both cases the proprietors agreed to put in windows so that sunlight could be admitted to the auditorium in the mornings. In neither case was this included in the original scheme. The resulting improvement in the hygienic conditions has been considerable. The windows also lead to a substantial monetary gain, as the cleaning can be done by natural instead of artificial light. One proprietor stated that since the window was fixed the saving had amounted to £1 per week.

Attention has also been paid to the angle of vision of persons occupying the front seats, as eye-strain occurs when the pictures are viewed from too short a range. The front seats have been arranged in the recently altered picturedromes so that the horizontal angle of vision between the far edge of the picture and the observer is never less than  $25^{\circ}$ , and vertical angle between the top of the picture and the observer never less than  $35^{\circ}$ . The proprietors of both the picturedromes agreed to comply with these suggestions, although it meant the loss of a considerable number of seats.

The proprietors of all the places of entertainment willingly carried out my suggestions with regard to the minor defects and the need for repairs to which I drew their attention.

*Rats and Mice Destruction Act.* Owing to the impossibility of administering this Act effectively, the services of the permanent rat-catcher were dispensed with at the end of 1922. Advice on rat extermination and on how premises can be made rat proof is given when required by the District Sanitary Inspectors, or by Inspector Kenyon. During the year the latter paid 97 visits and served 5 notices.

*Offensive Trades.* On the 18th June, 1923, the County Borough of Blackburn (Offensive Trades) Confirmation Order, 1923, came into operation. Under it the following trades, businesses, or manufactures were declared to be offensive trades which could not be established within the borough without the consent of the Local Authority :—

Blood drying.  
Leather dressing and tanning.  
Fat melting or fat extracting.  
Glue making.  
Size making, and  
Gut scraping.

Rag and bone dealing was declared an offensive trade in 1922.

In February, 1923, new bye-laws for the better control of the offensive trades were adopted. The registered offensive traders number 30 :

Fat Melters .....	4
Tripe Boilers .....	6
Knackers .....	2
Gut Scrapers .....	2
Rag and Bone Dealers .....	16

One new licence to deal in rags and bones was granted in 1923, and several were refused.

A new trade is developing which gives rise to unpleasant effluvia, and concerning which numerous complaints have been received. It consists in the burning of rubber from the worn-out wheels of heavy motor



vehicles. The rims are stacked in heaps of six or seven, and a fire is lighted underneath. The rubber is removed as soon as the vulcanite casing has melted. The rims are then disposed of as scrap metal.

## FOOD.

*Milk.* Considerable attention was devoted to the improvement of the milk supply. Our second Clean Milk Competition for Alderman Fielding's Silver Cup was held from January to March, 1923. The unprogressive farmers held aloof or were actively hostile, but six entrants were obtained and the standard reached by all was quite satisfactory.

"Certified" milk is now definitely established. In spite of bad trade and general shortage of money the sale of this grade of milk, which is  $7\frac{1}{2}$ d. a pint, steadily increases, and is now over 250 bottles a day. It is a pity that it is not produced nearer Blackburn than Keswick, as the cost of bringing it from there is considerable.

"Grade A" milk in bottles, produced at a farm just outside the town, is now retailed in Blackburn at  $3\frac{1}{2}$ d. per pint, and one farmer in the borough supplies "Grade A" milk to the Corporation Hospital.

*Sediment Test.* Samples have been taken weekly throughout the year and examined for the presence of visible dirt. The milk to be examined was filtered through cotton wool discs, which, after drying, were compared with standards. Altogether 251 samples were examined in this way. Sixty-three were from farms inside and 188 from farms outside the borough. Of the Blackburn samples 18, or 28.5% were clean or fairly clean; 31, or 49%, were contaminated with dirt; 9, or 14%, were grossly contaminated; 5, or 8%, were very grossly contaminated, and can be most accurately described as filthy. Twenty six, or 14%, of the outside samples were clean or fairly clean; 83, or 44%, were contaminated; 67, or 36%, were grossly contaminated; and 12, or 6%, were very grossly contaminated or filthy. A strong letter was sent to the vendor of each of the dirty samples, and samples taken towards the close of the year were very much better than those taken at the beginning.

Very valuable help in improving the milk from outside the borough was given by the Clerk of the Rural District Council, John Birch, Esq., who addressed a meeting of farmers on the subject, and who sent his officers to the farms where the worst samples were produced.

*Tuberculous Milk.* During the year 89 samples of milk brought into the town were examined for living tubercle bacilli by inoculation into guinea pigs. Five were reported to be infected with the bacilli. Examination of the cows of these herds by the Veterinary Inspector failed in three cases to discover any cow which appeared to be affected with tuberculosis of the udder, and the 11 subsequent control samples were negative.

This emphasises the fact that we have no reliable test for tuberculous milk, and one of the most urgent duties of the Medical Research Council should be the discovery of some rapid yet accurate method of demonstrating the presence or absence of the living germs of tuberculosis in milk. Under the present system it is over five weeks before a report is received, and even then it is not always reliable. In two herds, from which monthly samples of the mixed milk are taken as a routine, a positive report was received after the routine sample for the subsequent month had been despatched. There had been no change in the herds, yet the second samples were both negative. The Veterinary Inspector in the meantime failed to find any cow which appeared to be infected, but he divided the herds into groups of five or six cows and took a sample from each group; these also were all returned "negative." In the third herd where the Veterinary Inspector failed to find a tuberculous cow there had been changes in the herd between the taking of the sample and the receipt of the report that it was tuberculous.

In each of the remaining two herds, however, a cow affected with tuberculosis of the udder was discovered. Both cows were slaughtered at the public abattoir. In one of these cases the farmer was prosecuted under the milk clauses of the Blackburn Corporation Act, 1901, for failing to notify that he had a cow exhibiting signs of tuberculosis of the udder. He was fined 40s. and costs.

Thirty-two of the 89 samples contained *B. Coli*, an evidence of contamination with filth, in 0.01 c.c., which is less than one-tenth of a drop. The Veterinary Inspector paid 175 visits to farms in the borough and examined the udders of 3,344 cows. Five were found to be affected with tuberculosis. They were all slaughtered at the public abattoir.

*Farm Premises.* There are 82 farms in Blackburn from 74 of which milk is retailed in the town. The other farmers sell their milk wholesale. One hundred farmers from outside the borough retail milk within it. Advantage has been taken of the Milk and Dairies (Amendment) Act, 1922, to re-register all purveyors of milk. No farm in the borough or

dairy has been placed upon the new register until the premises have been made satisfactory. There are 42 farms which are not registered yet, but in all there is a promise that the improvements which we require will be put in hand, and registration has been deferred until the work has been completed.

The chief defect in the cowsheds was lack of light. Although an essential for cleanliness, many of the farmers are prejudiced against light, and this prejudice is very difficult to overcome. The usual type of window was a fixed one above a "Hit and Miss" ventilator, which was made of wood. The result was that light was obstructed, and when, or if, the ventilators were opened there was a draught directly on to the cows. The windows and ventilators have been replaced by windows in which the top third opens in the form of a "hopper." The standard laid down has been 3 square feet of window area per cow.

Although the air space available in the cowsheds in the borough is much more than is found in cowsheds in rural areas, there are still a number which do not allow 600 cubic feet per cow. In these cases the number of cows allowed has been reduced so as to conform with that standard. The reduction of the number of gullies inside cowsheds has been going on gradually for some years. Surface drainage to trapped gullies outside is now insisted on before registration.

In some cases the construction of the floor has been such as to make it impossible to keep the cows clean.

The time-honoured custom of cleaning milk utensils, namely, by washing them with so-called boiling water, wiping them dry with a cloth, and then standing them outside in the open to "sweeten," is one which dies hard. It is useless to insist on the installation of a steriliser unless and until the milk producers have been educated to their use, but there are now a number of farmers in the district who do realise the value of steam in the dairy, and various types of sterilisers are in use. The approaches and surroundings of some cowsheds leave much to be desired, but the cost of paving is still so great that the time does not seem opportune for more than palliative measures.

Three cowsheds—Swan Farm, Rothwell Scar, and Higher Spew Spout—have been entirely reconstructed. The following summarises the

improvements which have already been carried out in the various farms in the borough :—

Improved Lighting of Cowsheds .....	35
Improved Ventilation of Cowsheds .....	33
Increase in Cubic Space per Cow .....	32
Improved Drainage .....	16
Improved Yard Surface .....	5
Improved Dairy .....	7
Improved Provision for Washing and Storing Milk Vessels .....	7

*Dairies.* All the dairies and milkshops were reported upon during the year, and it was found that in many, milk was being sold from an earthenware bowl with a loose wooden cover on the counter of a shop in which many other articles, some dusty, some odorous, were also exposed for sale. Our first endeavour was to prohibit the sale of milk from such places, and in some the effort was successful, but it was evident that in others a very serious hardship would result if we prohibited what had been allowed to go on for years. It has, therefore, been agreed that milk may be sold in small shops provided (1) that articles are not sold such as paraffin oil, firelighters or potatoes, to which grave objection could be taken, and (2) that the milk is sold from a covered container with a tap at the bottom. There are now 72 registered dairies and milkshops. In 19 milk products only are sold : in the remaining 53 other articles also are dealt with and a covered container has been provided.

*Meat.* Statistics relating to the Public Abattoir will be found in Appendix 17 (Pages 94 to 97).

The new lairage came into full use at the beginning of the year. It is a wooden building designed on modern lines by the Borough Engineer and the Veterinary Inspector. It accommodates 120 cattle, 350 sheep and 150 pigs. The floor is of concrete and there is a surface drainage. The cattle standings have water laid on and there are feeding passages : there are spacious gangways at the rear of the animals. The pig pens are divided by concrete walls and the feeding troughs are of iron. The sheep pens are of creosoted wood and each pen has a water trough and hay rack. The cost of erection was £2,964.

A record number of cattle was slaughtered during 1923, and the returns of the past two years show that the business done at the public



abattoir has doubled in the past fifteen years. Blackburn is now a distributing centre for meat to a wide area.

The number of cattle, calves and pigs affected with tuberculosis was 306 or 1.64% of those slaughtered at the abattoir; the corresponding percentage in 1922 was 1.4%. In 54 the disease was so advanced that the whole carcase had to be condemned.

*Private Slaughterhouses.* There are only two private slaughterhouses in the town. The average numbers of animals slaughtered in them are 90 beasts and 1,000 sheep per annum; compared with over 10,000 beasts and 80,000 sheep slaughtered at the public abattoir.

*Food Preparing Premises.* There are 45 premises registered under a Section of the Blackburn Corporation Act, 1922, for the preparation of meat food products. Twenty-eight other premises where food is prepared are exempt as they come under the provisions of the Factories and Workshops Acts.

*Diseases of Animals Acts.* The Veterinary Inspector's report is printed in Appendix 18 (Page 98), where particulars will be found of a case of anthrax which occurred at the public abattoir.

*Fried Fish Shops.* A sanitary survey of the 194 fried fish shops was made during 1923. Twenty-three are lock-up shops and 171 are dwelling houses. In 166 the cooking and selling of fried fish and chip potatoes is the sole business. In 84 there was no cause for complaint. A notice was served on the occupiers of each of the remaining 110 requiring various improvements, practically all of which have now been carried out.

*Sale of Food and Drugs Acts.* The Public Analyst is W. H. Roberts, Esq., M.Sc., F.I.C. The number of samples examined was 408, of which 35 or 8.5% were reported to be adulterated or not up to the standard. This compares with 7.3% last year and 8.8% in 1921. Two hundred and sixty-three were samples of milk, 95 of which were informal, that is, taken without the vendors knowing that they were to be examined. Twenty-five milk samples or 9.5% were not up to the standard prescribed by the Ministry of Agriculture. These included 18 or 6.8% in which the deficiency was considerable. The number of vendors concerned in these 18 samples was 11. A formal sample was purchased immediately when the analysis of an informal one showed that it was not up to the standard. In 9 formal samples the deficiencies

were marked and the 7 vendors concerned were prosecuted. The total amount of the fines was £34 5s. od.; the amount of the fines imposed in 1922 was £9 5s. od. The average composition of all the samples analysed during the year was:—fat, 3.68%; non-fatty solids, 8.94%. There was no contravention of the Milk and Cream Regulations. Two hundred and sixty-three samples of milk and two of cream were examined for preservative. None was found.

The samples other than milk numbered 145, 137 of which were informal. Ten of the informal were not genuine, eight of these being sponge-cakes which contained boracic acid. All the vendors were cautioned and promised in future to keep these small sponge-cakes, so often eaten by children, free from this preservative.

One of the informal samples was of medicine, which was 10% deficient in sodium bi-carbonate and 70% deficient in emulsio chloroformi B.P.C. A formal sample was purchased from the same vendor and found to be genuine. One informal sample of condensed machine-skimmed milk was found to be slightly deficient in milk solids: a warning letter was sent to the manufacturer. Appendix 19 (Page 101) gives details of the samples purchased and the action taken with regard to those which were sophisticated.

## INFECTIOUS DISEASES.

*Zymotic Diseases.* During the year there were 39 deaths from the seven principal zymotic diseases, which are: smallpox, measles, whooping cough, diphtheria, scarlet fever, diarrhœa, and fever (including typhus, enteric, and typhoid). This is a death-rate of 0.3 per 1,000 of the population, and for an industrial centre is quite satisfactory. The zymotic death-rate in 1922 was 0.58: ten years ago it was 1.36 and twenty years ago 1.70, showing a reduction in the twenty years to less than one-fifth. The number of deaths during each of the past ten years is shown in Appendix 7 (Page 81).

*Notification of Infectious Diseases.* The incidence of the notifiable infectious diseases is dealt with in Appendices 21 and 22 (Pages 103 and 104).

The following Table shows the notification rates per 1,000 of the population for the principal acute infectious diseases in Blackburn and in England and Wales. The small incidence of scarlet fever, diphtheria and enteric fever and the absence of smallpox is very gratifying.

## NOTIFICATION RATES PER 1,000 OF THE POPULATION, 1923.

	Small-pox.	Scarlet fever.	Diphtheria.	Enteric fever.	Puerperal fever.	Erysipelas.
Blackburn ...	Nil	1.67	0.27	0.02	0.09	0.40
England and Wales .....	0.06	2.23	1.04	0.08	0.06	0.32

## DEATH-RATES PER 1,000 OF THE POPULATION, 1923.

	Small-pox.	Scarlet fever.	Diphtheria.	Enteric fever.	Measles.	Whooping cough.	Influenza.
Blackburn ...	Nil	Nil	0.01	0.007	0.05	0.05	0.38
England and Wales .....	Nil	0.03	0.07	0.01	0.14	0.10	0.22

For each disease, except influenza, the Blackburn death-rate is considerably below that of England and Wales.

The Ward distribution of the notifiable infectious diseases, the ages of the patients, and the number notified each year since 1904 are given in Appendices 21 and 22 (Pages 103 and 104).

*Scarlet Fever.* The number of notified cases was 216 compared with 231 in 1922. The disease was of a very mild type. For the first time in the history of the Borough scarlet fever did not cause a single death. As recently as 1909 there were 1,013 cases and 53 deaths. Parents were not pressed during 1923 to send their children into the Isolation Hospital, but in 170 cases, or 78%, they or their doctors desired this, and the children were admitted. This compares with 75% removed to Hospital during 1922 and 80% during 1921. In each of 27 families two or more cases of scarlet fever occurred. In six families the second member was infected before the notification of the first case. Owing to the mildness of the infection, 8 cases were not notified until they had begun to peel. There were, during 1923, four return cases, or 1.9% of those discharged from the Hospital.

In accordance with the request of the Ministry of Health an attempt has been made to measure the influence of domestic overcrowding upon the incidence of scarlet fever. Altogether 176 primary cases occurred in private dwelling-houses: 47 remained at home and 129 were removed to Hospital. Twenty-nine susceptible children, that is, those under fifteen years of age, who had never had scarlet fever, lived in the houses where

the cases were nursed at home : 3, or 10%, subsequently developed the disease. Three hundred and nineteen susceptible children lived in the houses from which the 129 cases were removed to Hospital : 33, which is again 10%, subsequently developed scarlet fever either as secondary or return cases.

It would be erroneous to argue that because the percentages of secondary cases in the two groups are the same, removal to Hospital has no influence on the spread of the disease, for it is only where effective isolation appears to be possible that cases are allowed to remain at home, but it does certainly follow from the figures and similar ones which I published ten years ago that provision for the isolation in Hospital of *all* cases of scarlet fever cannot be justified. A further analysis of the figures gives the surprising result that domestic overcrowding does not appear to increase the tendency of the disease to spread.

While scarlet fever is so mild, I consider that Hospital isolation is imperative only when (1) the patient cannot be provided with adequate medical or nursing attention at home and (2) when the patient is in a common lodging-house, hotel, eating-house, farm, milkshop, boarding school or hospital where the means for the spread of infection are unusually great. Many Blackburn children with scarlet fever have been admitted to Hospital because keeping the patient at home would involve loss of remunerative employment on the part of a working mother or because, for no real reason, the parents or the private doctor desired the admission of the child.

*Diphtheria.* We are fortunate in having still a very low incidence of and death-rate from diphtheria. The number of cases was 35, compared with 52 in 1922 and 45 in 1921. There was 1 death, giving a case mortality rate of 2.8%, compared with 13.4% in each of the two previous years. In only one house did the disease spread to another member of the family.

One hundred and fifty throat swabs were sent by private practitioners for bacteriological examination, and in 22 the diphtheria germ was found. A note is issued with the report on each negative swab to the effect that a negative bacteriological finding does not exclude diphtheria, and that anti-toxin should be given at once if the clinical appearances are those of diphtheria. With a report on a positive swab there is issued a note advising the giving of at least 8,000 units of anti-toxin to cases of ordinary severity. Anti-toxin for diphtheria patients is kept at the Town



Hall, the Central Police Station, and at each of the three branch Police Stations, and during 1923 186,000 units for the use of their patients were given to 12 doctors.

*Measles.* The biennial epidemic of measles occurred in 1922, and there were comparatively few cases in 1923. The cases notified by parents or teachers numbered 427, compared with 1,688 in the previous year. There were six deaths, all of children under five years of age. Five cases of measles complicated by pneumonia and two with other complications were admitted to the Corporation Hospital: they all recovered.

*Whooping Cough.* There were 318 cases of, and 7 deaths from, whooping cough, compared with 165 cases and 9 deaths in 1922. Six cases, all of which recovered, were treated in the Corporation Hospital.

*Influenza.* Influenza caused 49 deaths, compared with 72 in 1922, 20 in 1921, 59 in 1920, 187 in 1919, and 338 during the great epidemic year 1918. Experience of influenza epidemics shows that after large outbreaks there follow for a few years small "trailer" outbreaks. One of these occurred in the spring of 1923 and another in that of 1924: there was no epidemic during 1923, but a few cases occurred in each month.

*Non-Tuberculous Lung Diseases.* These are for the first time included in the infectious diseases section of this report. Pneumonia, which is definitely an infectious disease, often spread from person to person, has been included rightly in this section since acute primary and acute influenzal pneumonia were made notifiable in 1919. Certification of deaths as between pneumonia and bronchitis is notoriously bad: one doctor will call acute capillary bronchitis what another will call acute broncho-pneumonia. It is better, therefore, for statistical purposes to group all non-tuberculous lung diseases together. The total deaths from this group of diseases numbered 420, which is about 25% of all the deaths which occurred in the town. It is the heavy toll of life taken by these diseases that makes the vital statistics of industrial areas so bad. The rural districts of the North Riding of Yorkshire have a similar climate and a similar population (136,746) to that of Blackburn. In 1922 there were 1,656 deaths in those rural districts compared with 1,843 in Blackburn. In the rural districts non-tuberculous lung diseases (almost entirely bronchitis and pneumonia) caused 195 deaths: in Blackburn they caused 426. Had it not been for these fatalities our death-rate would have been less than that of the rural districts. The essential need for healthy lungs is pure air: lung diseases are spread in the vitiated atmospheres of ill-

ventilated rooms, workshops, and vehicles. A campaign to secure purer air and better ventilation would be productive of much good.

Three hundred and forty-nine notifications of acute primary or acute influenzal pneumonia were received. Seventy-three of these patients died, giving a case-mortality of 20.9%. The services of the District Nurses are provided by the Corporation for notified cases. During the year 2,832 nursing visits were paid to 168 patients. Forty died, five were removed to Hospital, 114 recovered, and 9 were under treatment at the end of the year.

*Diarrhœa.* The deaths from this disease, which every year until recently caused a great loss of infant life, numbered 24, which is a death-rate of 0.1 per 1,000 of the population. Last year the deaths numbered 26, and in 1921, 47; in 1913 diarrhœa caused 140 deaths. The epidemic form of this disease generally occurs in children under two years of age. There were 21 deaths under that age in Blackburn: this is a death-rate of 10 per 1,000 births, and compares with 7.7 in England and Wales. The reason for this decline in recent years is undoubtedly the educational work of Health Visitors and Child Welfare Centres and the increasing use of dried or other milks which are safe for children.

*Smallpox.* The Vaccination Officer informs me that 605 of the 2,121 infants born in Blackburn during 1923 were successfully vaccinated: this is 28%. Eight hundred and sixty-eight, or 41%, secured exemption: a welcome reduction on the 55% and 54% of 1922 and 1921. One hundred and forty-nine died unvaccinated: 457 were unaccounted for and some will probably be vaccinated later.

In order to persuade parents to give their children the great benefit of vaccination a leaflet was drawn up in which were set out the main facts about vaccination. The Guardians kindly agreed to allow the Registrars of Births to hand one to the parent of every child whose birth was registered, but on seeking sanction from the Minister of Health the Clerk to the Guardians was informed by an officer of the Ministry that "Registrars of Births and Deaths cannot be authorised or required to distribute any forms beyond the 'Notices of the Requirement of Vaccination' handed to parents at the registration of births."

Two cases of smallpox were admitted to Finnington Smallpox Hospital from Clitheroe on January 30 and February 8, 1923, respectively, and were discharged on March 8 and March 15, 1923.

*Enteric Fever.* Four cases of enteric fever were notified. One died at home before the diagnosis could be confirmed or disproved and the death was certified to be due to enteric fever and pneumonia. The other three were admitted to Hospital and in each case the original diagnosis was amended. In one fatal case where the post-mortem examination showed the death to be due to acute miliary tuberculosis—an incurable disease—the notification was withdrawn.

*Encephalitis Lethargica.* Ten notifications of this disease, commonly and erroneously called “sleeping sickness,” were received between the 21st March and the 1st May and one was received in December. Three cases of a very mild type occurred in the same family. No connection was traced between any of the others. In three instances the disease was fatal. Five recovered completely. In the other two, twitchings and partial paralysis remain.

*Hospital Accommodation.* The following Table gives a summary of the cases dealt with at the Corporation Hospital in 1923. The report of the Resident Medical Officer, Dr. D. C. Lamont, gives further particulars, and is printed as Appendix 24 (Pages 106 to 113).

	In Hospital Jan. 1st, 1923.	Admitted	Died.	In Hospital 31st, Dec., 1923.	Case Mortality.
Scarlet Fever.....	27	182	...	3	...
Diphtheria .....	1	32	1	2	3.0%
Measles .....	5	7	...	...	...
Enteric Fever .....	...	3	...	...	...
Erysipelas .....	...	3	...	...	...
Whooping Cough .....	...	6	..	2	...
Other Diseases .....	...	9	3	3	33.3%
Pulmonary Tuberculosis ...	30	142	23	20	13.3%
Total.....	63	384	27	36	6.0%

Excluding the cases of pulmonary tuberculosis, the case-mortality was 1.6%. The number of cases treated in the Hospital during 1923, namely, 447, compares with 470 in 1922 and 362 in 1921.

The Finnington Smallpox Hospital was open for six weeks for the reception of two cases from Clitheroe.

Owing to the small number of cases of diphtheria and scarlet fever, one of the pavilions of the Corporation Hospital was used after the 1st May as an Open-Air School. Twenty pre-tuberculous children were

admitted as residents and another 20 delicate and anæmic children attended as day scholars. Also an arrangement was made with the Guardians under which the Corporation arranged to take cases of measles, whooping cough, chicken pox or erysipelas from their Institution in order to relieve the pressure on their accommodation caused by their admitting a large number of cripples, especially tuberculous cripples. Cases of any notifiable infectious disease and of measles and whooping cough were admitted to the Corporation Hospital on the request of a private doctor. The Table does not include the children in the Open-Air School.

*Bacteriological Examinations.* The number of examinations carried out during 1923 at the Hospital laboratory was 1,533, compared with 1,540 during 1922 and 1,360 during 1921. Appendix 25 (Page 114) gives particulars.

In addition, 100 samples of milk and 18 sera for agglutination reactions were examined at the Manchester or Liverpool Universities. These are apart from the 1,184 specimens in connection with the V.D. scheme which were examined by Professor Topley and at the Royal Infirmary.

## DISEASES CONTRIBUTING LARGELY TO THE DEATH-RATE.

*Cancer.* Cancer caused 177 deaths compared with 163 in 1922, 175 in 1921, 172 in 1920, and 165 in 1919. There is no doubt that cancer is increasing. In Blackburn in 1923 one death in every five between the ages of 45 and 65 was due to cancer. Cancer in Blackburn in 1923 caused nearly twice as many deaths as did consumption of the lungs. When it is realised that the duration of a case of cancer from the patient's first decline in health to a fatal termination is usually well over a year and may be five or even ten years, the importance of this disease to the guardians of the public health will be understood. Cancer patients fill many beds in both Poor Law and Voluntary Hospitals: it is safe to say that if some simple out-patient method of preventing or curing cancer could be discovered and brought into use the saving of public funds would be enormous. Up to now the responsible authorities for the maintenance of the public health have done little, or in most cases nothing, to combat this deadly scourge, but they have had the excuse that it was hard to know what they could do to control a disease of which the cause was unknown. The only definitely proved fact is that in at least some cases a cancerous growth follows upon chronic irritation: a mole which is subject



to friction, a lupus or a chronic ulcer may be the starting-point of a cancer. Cancer of the stomach may develop in an ulcer of that organ : smoking a clay pipe may predispose to cancer of the lip : cancer of the rectum is often preceded by chronic constipation. Another curious fact is that workers in many coal-tar and oil products are specially subject to cancer. Appendix 12 shows that male spinners have a heavy death-rate from cancer. Six of the 21 deaths from cancer were due to cancer of the scrotum. This is said to be due to mineral oil from the spinning mule soaking through their trousers and irritating the skin, but this has not been proved. It is well known that cancerous growths occurred on the hands of the pioneer workers in X-rays and were due to prolonged exposure to the irritation of the rays. Beyond this little that is positive is known : there is no real scientific evidence to prove that there are "cancer houses," that the disease is infectious in man or that it is hereditary, though it is easy in a disease which is so very common in middle and old age to produce instances which appear to favour any of these hypotheses.

With regard to diagnosis, the only certain way in early cases is to examine a portion of the suspected tumour under the microscope.

The only treatment up to now for an ordinary cancer is complete removal of the growth by a surgical operation : complete removal is impossible unless the cancer is detected in the very early stages. For certain types of cancer, radium may be tried, and for inoperable cases experiments are being made with a colloidal metal.

The ways in which Local Health Authorities can assist in the campaign against cancer are (1) by helping research into the cause of cancer by investigations after death or as the result of voluntary notifications ; (2) by instructing their people in the main facts about cancer so that they will apply for treatment early ; (3) by making it as easy as possible for the patient who goes to a doctor to have an accurate diagnosis made, by providing free laboratory facilities where these are lacking and by seeing that provision of expert treatment is readily available. In Blackburn the Royal Infirmary provides for operative treatment, but it is unfortunate that there is no provision for the radium treatment of cancer there.

*Heart Disease.* This disease caused 166 deaths in 1923 compared with 221 in 1922. The primary cause of many of these deaths was rheumatism and of others syphilis.



## TUBERCULOSIS.

The deaths in 1923 numbered 124, compared with 122 in 1922, 101 in 1921, and 111 in 1920. The 1923 figures are, however, with the exception of the last three years figures, the lowest ever recorded; the numbers of deaths in each year from 1913 to 1919 were 137, 156, 151, 144, 155, 163, and 143. In 1903 tuberculosis caused 213 deaths and in 1893, 276. The trade depression with its accompanying lack of nourishing food has undoubtedly been the cause of some of the recent increase, and it might have been even greater in the absence of direct anti-tuberculosis measures, including the provision of institutional accommodation and educational measures directed to a reduction of mass infection.

*Tuberculosis of the Lungs.* Pulmonary tuberculosis caused 93 deaths compared with 96 in 1922: This is a death-rate of 0.72 per 1,000 of the population. There were 55 deaths of males and 38 of females. The number of cases notified was 176 (for particulars of age and sex see Appendix 26, Page 116), compared with 145 in 1922 and 150 in 1921. Notification is improving, but is still unsatisfactory. In 1923, ten fatal cases, or 10.7% of the total were not notified at all, compared with 3 and 8 cases in 1922 and 1921. A letter reminding them of their duty to notify all cases of tuberculosis was sent to doctors who attended these unnotified cases. In 32 instances the interval between notification and death was less than three months. The corresponding number in 1922 was 26.

During the year 112 suspected cases of consumption were referred by private medical practitioners for the Tuberculosis Officer's opinion. Fifty-one were diagnosed as suffering from pulmonary tuberculosis and were subsequently notified by their doctors. Thirty-two per cent. of all cases notified by private medical practitioners were sent for examination at the dispensary before they were notified.

The age distribution of the deaths (Appendix 27, Page 117), shows that this year there were as many deaths between 15 and 25 years as between 35 and 45. Taking the past 23 years, however, the ages from 35 to 45 have been the most fatal, 634 deaths having occurred, compared with 558 between 15 and 25, and 613 between 25 and 35.

*Municipal Dispensary.* The aim of the dispensary is to act, not as a treatment centre where cod-liver oil and medicines are dispensed—

valuable as this would be,—but as a clearing-house and centre for examination. Practically all the insured persons are referred for domiciliary treatment by their panel doctors, but they are invited to attend the Dispensary for examination by the Tuberculosis Officer every three months. It is to be regretted that only a small percentage of the patients on domiciliary treatment attend either their panel doctors or the Dispensary unless they feel really ill and are almost or quite unfit for work.

At the beginning of 1923, 695 cases of pulmonary and 240 of non-pulmonary tuberculosis were on the dispensary register. At the end the numbers were 705 pulmonary and 284 non-pulmonary: during the year 58 patients (40 pulmonary and 18 non-pulmonary) were taken off the books, as they were apparently cured. The Tuberculosis Officer has reported on these 58 cases, and full particulars will be found in Appendix 28 (Page 117). In 13 of the pulmonary cases the diagnosis was always in doubt. In two others there had been no evidence since notification, of active disease. Six had shown no active disease for one year and 14 for two or more years. Five pulmonary cases were taken off the books without examination by the Tuberculosis Officer. They had all been notified several years ago: they had not attended the Dispensary or their private or panel doctor for years: they were in full work and resented the visits of the Tuberculosis Nurse or communications from the Health Office. All the cases taken off the books were urged to report to the Dispensary at once should they develop any sign of tuberculosis.

One of the most important duties of a Tuberculosis Nurse is to persuade those living in the same house as a consumptive to present themselves for medical examination, so that if they are developing tuberculosis their condition may be diagnosed in an early stage when it is curable. One hundred and six contacts were examined at the Dispensary, compared with 82 in 1922: 28 were found to be suffering from active tuberculosis, whilst another 8 are being kept under observation. The high percentage of infected cases emphasises the need for extending this branch of the work, and the small number of contacts examined is an index of the difficulty which the nurse finds in persuading the contacts to attend.

In addition to the 106 contacts examined at the Dispensary, 55 were examined in school by the Medical Inspector, and in one of these the disease was diagnosed.

The following Table shows how the work of the Dispensary is growing :—

		<i>New Patients</i>		
		<i>Examined.</i>		<i>Attendances.</i>
1923	.....	307	...	3,225
1922	.....	266	...	2,744
1921	.....	200	...	2,541
1920	.....	168	...	1,447

During the year 3,211 educational visits to the homes of the patients were paid by the Tuberculosis Nurse and the Health Visitors : 420 were to ex-service patients.

*Hospital Accommodation.* Thirty-two beds are provided at the Corporation Hospital for cases of pulmonary tuberculosis : that provision for the isolation in hospital of the most infectious cases is necessary will be shown by a study of Appendix 29 (Page 120), which gives the home circumstances of the patients so far as sleeping accommodation is concerned. Even after the Doctor and Health Visitor had done all they could to secure better isolation, only 284 out of 564 notified cases known to be, or to have been, infectious, by the demonstration of tubercle bacilli in the sputum, occupied a separate bedroom. In no less than 58 families there were three or more occupants of the patient's bedroom, but this is an improvement on last year, when the figure was 96.

The Hospital is used for the observation of doubtful cases, the education and treatment of the intermediate and the isolation of the advanced. The number of cases dealt with was 172, compared with 153 in 1922. The average number of beds occupied was 30.4 compared with 26.2 in 1922.

*X-Ray Apparatus.* In February, 1923, an X-Ray apparatus was installed in the disused Scarlet Fever Discharge Block of the Corporation Hospital. It adjoins the entrance and is available both for cases referred from the Dispensary and for those in Hospital. It has been used extensively as an aid to diagnosis in patients seen by the Tuberculosis Officer at the Tuberculosis Dispensary and patients seen by Dr. Briggs at the Orthopædic Clinic. A considerable number of patients has been examined under X-Rays at the request of the School Medical Officer and of Private Practitioners.

Radioscopic examinations have been found especially useful in assisting in the diagnosis of doubtful cases of Tuberculosis of the lungs and thoracic glands and are employed extensively to gauge the effects of treatment in the tuberculosis ward of the hospital and to observe the effects of, and control, treatment by the pneumothorax method.

The following Table gives particulars of the work done in the X-Ray Department during 1923 :—

PULMONARY.						
<i>Screenings.</i>		<i>Films.</i>		<i>Plates.</i>		<i>Total.</i>
126	...	94	...	45	...	265
NON-PULMONARY.						
<i>Screenings.</i>		<i>Films.</i>		<i>Plates.</i>		<i>Total.</i>
10	...	18	...	24	...	52
Total number of X-Ray Examinations ... 317.						

The work in connection with lung cases is done by the Tuberculosis Officer. Mr. Haydock attended on seven occasions to radiograph patients referred from the Orthopædic Clinic.

*Pneumothorax Treatment.* A method of treatment, new to Blackburn, was commenced in 1923. It is called "pneumothorax treatment," and consists of an endeavour to prevent movement in a diseased lung by inserting between the lung and the chest wall a cushion of oxygen or air. It is believed that healing of the lung is more likely to occur when the lung is at rest than when it expands and contracts with every breath. The air acts like a splint which controls the movements of a diseased or injured limb. The cushion of oxygen or air is slowly absorbed by the tissues and must be replaced periodically. It is an essential in this form of treatment that the lung on the other side should not be extensively diseased, as when one lung is put out of action by the air the patient is dependent upon the other for the aeration of his blood. This method of treatment was commenced before the X-Ray installation was ready for use. The great advantage of X-Ray control has been to enable us before the operation to gauge more accurately the extent of the disease in the lung on the opposite side to that which is to be collapsed and after the operation to determine whether or not the diseased lung has collapsed fully and how quickly the air is being absorbed. The method was used in 21 cases and the total number of injections was 176. The apparatus



used is that of Dr. Kuss. A second apparatus was made by one of the tuberculous patients in the Hospital. The treatment was successful in 13 cases and unsuccessful in 8. Of the 13 patients who derived benefit, 11 showed very great improvement. Sufficient time has not elapsed to show whether or not this improvement will be permanent, but in 4 patients who have been under this form of treatment for nearly nine months the disease appears to be arrested. In 2 patients who showed improvement for a time the disease in the other lung continued to advance and at present the general condition of these two patients is unimproved. Particulars of each patient treated are given in Appendix 30 (Page 122). In all the cases treated the disease in one lung was extensive.

*Sanatorium Accommodation.* Nine beds for early cases are retained at the Meathop Sanatorium, Grange-over-Sands, but additional cases are admitted as required. Thirty-five patients were dealt with at Meathop, including 10 in residence there at the beginning of the year. Particulars of the patients admitted to and discharged from the Hospital and Sanatorium during the year are given in Appendices 31 to 33 (Pages 124 to 126).

Three of the Sanatorium and 27 of the Hospital cases were ex-service men, for the entire cost of whose treatment the Ministry of Pensions is responsible.

Particulars of the present condition, so far as is known, of patients discharged in past years from the Hospital or Sanatorium are given in Appendices 34 and 35 (Pages 127 and 128). They show that 72 patients who have been treated at the Meathop Sanatorium and 113 at the Corporation Hospital, many of them some years ago, are at full work and have no symptoms of tuberculosis.

*Children.* No anti-tuberculosis scheme is complete which does not make ample provision for children threatened with the disease. Owing to the small number of cases of scarlet fever, an empty pavilion with playing field adjoining was available at the Corporation Hospital for the reception of 20 children who appeared to be declining into consumption. They were maintained by the Health Committee and the Education Committee provided a teacher and all the school equipment: accommodation for a day open-air class has also been provided at the Hospital. All the children made remarkable progress. Full details are set out in my Report as School Medical Officer.

*Home Nursing.* Arrangements have been made for the District



Nurses to assist in the nursing in their homes of patients with non-pulmonary tuberculosis or with advanced pulmonary disease. They dealt with 21 cases, mostly non-pulmonary, to whom 1,008 visits were paid. Six patients improved to such an extent that no further visits were necessary: 10 died and one was removed to Hospital.

*Dental Treatment.* In a disease in which the assimilation of nourishment is so important it is an essential, if treatment is to be successful, that the patient should have efficient teeth. The Corporation Dentist paid several visits to the Open Air Ward of the Hospital. She treated 11 tuberculous patients at her Clinic: some were from the Hospital, the others were awaiting admission to the Sanatorium. She devoted four half-days to this work and extracted 28 teeth. Dentures are provided for patients who require them, provided that they cannot afford to pay for them and that they are unable to procure artificial teeth from the Ministry of Pensions, in the case of pensioners, or from their Approved Society, in the case of insured persons. One set of dentures was paid for by the Corporation during 1923.

*Combined Treatment and Training.* Three Blackburn patients have completed a course of vocational instruction in Training Colonies. One man, who was in the Preston Hall Colony, Kent, for 18 months is now living in a cottage there with his wife and family. He was a weaver, and was trained in horticulture. Another man who was in Preston Hall for four months in 1921, and who was there trained in pig farming, has removed out of the Borough. A patient who was trained in poultry farming at the Barrowmore Sanatorium for six months in 1922 is working as a collector for an Insurance Society, but thinks of returning to his former occupation of ship's steward. One pensioner is now being trained in poultry farming at Barrowmore.

*After-Care.* The window-cleaning business managed by the Charity Organisation Society for ex-sanatorium patients is still in a prosperous condition.

*Non-Pulmonary Tuberculosis.* During the year 31 deaths were certified to be due to non-pulmonary tuberculosis, compared with 26 in 1922, the figures for the four preceding years being 24, 29, 27, and 37. The 31 deaths include tuberculosis of the meninges, 11: peritoneum, 9; spine, 5; other bones, 4. One hundred and two cases of non-pulmonary tuberculosis were notified, namely: glands of the neck, 44: hip joint, 3: abdomen, 13: meninges, 10: spine, 4: other bones, 16: skin, 5: knee, 4: general miliary tuberculosis, 3.

The Blackburn Board of Guardians have made provision for the institutional care of these cases in a special annexe attached to their Queen's Park Hospital. Some of the cases are operated upon at the Blackburn and East Lancashire Royal Infirmary and at Liverpool and Manchester Hospitals.

*Orthopædic Clinic.* As mentioned in last year's Report, Dr. W. Briggs was appointed to hold a Surgical Clinic at the Municipal Dispensary for one session each month. The first session was held on the 2nd March, 1923. Seventy-five patients have been examined and reported upon at the 10 sessions held during 1923, and 113 attendances have been made; 25 of the cases suffered from tuberculosis of the bones, joints, or glands; 21 from rickety deformities; 13 from infantile paralysis; 11 from congenital deformities, and 5 from other crippling conditions. Twenty-five were recommended for operative treatment, and the admission of the patients to the Queen's Park Hospital was obtained through the Crippled Children's Aid Society. The Society, during the year, supplied extra nourishment to 115 cases, sent 34 to their Holiday Home in Osbaldeston, and supplied 54 splints and other surgical appliances; their visitors paid over 3,000 home visits. The children are operated upon at the Queen's Park Hospital by Dr. Briggs, and on discharge they are referred to him at the Orthopædic Clinic.

#### VENEREAL DISEASES.

The following Table gives the number of new cases seen at the treatment Clinics held at the Blackburn Royal Infirmary for each of the past four years :—

		NEW CASES.			
		<i>Men.</i>		<i>Women.</i>	<i>Total.</i>
1923	.....	264	...	154	418
1922	.....	258	...	155	413
1921	.....	334	...	191	525
1920	.....	443	...	167	610

Assuming that the same proportion of the inhabitants of the town infected with venereal diseases have attended the clinics each year, it may be concluded that these diseases are not so prevalent as they were in 1920 and 1921. Owing to the general shortage of money, it is probable that a greater proportion attend the clinics now, owing to inability to pay for

private medical treatment, and it may be concluded with tolerable certainty that the incidence of the diseases is less.

The attendances at the Clinics were : 7,295 men, 1,958 women, total 9,253 ; compared with 6,775 men, 2,643 women, total 9,418 in 1922. For full statistics of the work done at the Clinics see Appendix 36 (Page 129). The age incidence of the new cases was as under :—

MEN.			
Up to 21 years	.....		23
From 21 to 25 years	.....		55
„ 26 to 30 „	.....		40
„ 31 to 35 „	.....		35
„ 36 to 40 „	.....		26
„ 41 to 50 „	.....		42
„ 51 to 60 „	.....		43
			<hr/>
Total	.....		264
			<hr/>

Reporting on the work of the men's clinic, Dr. Cran Duthie draws attention to the large number (126) of new cases who were not suffering from venereal disease. They are men who have exposed themselves to infection and attend to make sure that they have escaped. One hundred and forty-nine of the 264 new cases were married and 115 single. The new cases of syphilis numbered 70 and those of gonorrhœa 57. As gonorrhœa is a much commoner disease than syphilis, it is evident that many cases of the latter disease do not attend the clinic : in fact, some of them receive no medical treatment. The number of attendances for irrigation increased from 1,930 in 1922 to 4,062 in 1923. In the latter year 869 irrigations took place at the time of the ordinary clinics and 3,193 at times apart from those of the clinics. Questioning of the patients indicates that there is little evidence of the presence of prostitutes in the town. Most of the men state that they have been infected by married women or by young single women with whom they have been "friendly."

Dr. Ella Mackenzie reports that the two main types of patient attending her clinic at the Royal Infirmary are married women who have been infected by their husbands and unmarried girls who have acquired the disease through illicit intercourse—the majority of these latter are found to be suffering from gonorrhœa.

A few children suffering from congenital syphilis have been sent to the Royal Infirmary clinic for treatment, and in all, except one, the parents have consented to be put under treatment and observation themselves. The one exception is attending her own doctor.

As a rule patients attend very well till all symptoms have disappeared, and many of the syphilis cases continue until one or two courses of injections have been given. The falling-off chiefly occurs amongst those whose bloods are still positive to the Wasserman Reaction after a second course. These are written to from time to time by the Nurse in charge and encouraged to continue attendance and treatment.

There are many respectable women innocently infected with venereal disease who would not attend the special clinic for venereal cases at the Royal Infirmary. Many are discovered at the Child Welfare Centres, where a delicate baby is found to be syphilitic. These children are treated by Dr. Mackenzie at a special Maternity and Child Welfare Centre. Many of the parents do not realise the nature of the treatment the children are receiving, but continue to attend because of the obvious benefit they are receiving. Whenever possible, arrangements are made for the parents to be examined and treated at this clinic, but this is often impossible. Details of the cases are given in Appendix 37 (Page 131).

There was close co-operation with the officers of the Manchester Diocesan Association for Preventive and Rescue Work, and they were good enough to take charge of several infected girls who presented themselves at the clinics.

Salvarsan substitutes are available at the Royal Infirmary for private medical practitioners whose names are upon the approved register. Six doctors out of eleven on the list availed themselves of this free supply, and 251 doses were supplied to them for the use of their patients.

### INFANT MORTALITY.

There were 210 deaths of infants compared with 215 in 1922, 276 in 1921, and 311 in 1920. This is a rate of infantile mortality of 100 per 1,000 births, compared with 98 in 1922, 109 in 1921, and 110 in 1920.

The average rate for the decennium 1913-22 was 119, and for 1903-1912, 152. The rate of infantile mortality amongst male infants was 130 per 1,000 births, and amongst females only 70. The rate of infantile

mortality amongst illegitimate infants alone was 146. Throughout England and Wales the rate of infantile mortality was 69 per 1,000 births, and in the 105 great towns 72. Appendices 39 and 40 (Pages 134 and 135) give the causes of the deaths of Blackburn infants.

The more important are :—Prematurity and congenital defects, 35.8 per 1,000 births; bronchitis and pneumonia, 19.5; atrophy, debility, and marasmus, 10.9; diarrhœa and enteritis, 9.1. The rates from prematurity, respiratory, and diarrhœal diseases are somewhat higher than those for 1922; that from marasmus is somewhat less.

This year Trinity Ward has the highest rate of infantile mortality, namely, 163. St. Paul's and St. Thomas's, with a rate of 130 in each, are the next highest. The lowest rates are St. Silas's, 50, and St. Stephen's, 56. For full ward statistics see Appendix 41 (Page 136).

Forty-three children died on the day they were born, 66 children died before they were a week old, and a total of 99, or 42 per cent., of all the deaths under one year occurred in children under the age of one month. This is a neo-natal mortality of 47.2 per 1,000 births compared with 39.9, 49.8, 54.8, and 45.7 in the four preceding years.

This high neo-natal mortality, with which is associated a high death-rate of mothers in childbirth, is a most serious blot on our vital statistics.

*Child Mortality.* The deaths of children, aged one to five years, numbered 81 compared with 108 in 1922, 66 in 1921, and 63 in 1920. The principal causes were :—

	1923.	1922.	1921.	1920.
Lung Diseases .....	39 ...	47 ...	27 ...	25
Tuberculosis .....	7 ...	8 ...	1 ...	6
Diarrhœa .....	4 ...	6 ...	6 ...	2
Measles .....	4 ...	23 ...	— ...	6
Whooping Cough .....	1 ...	4 ...	11 ...	—
Diphtheria .....	— ...	5 ...	3 ...	4

It will be seen that mortality at these ages is largely due to lung diseases, and is also materially influenced by the presence or absence of epidemics of measles or whooping cough.



*Notification of Births Acts.* These Acts require that all births shall be notified to the Medical Officer of Health within thirty-six hours of their occurrence. The number of notifications received was 2,119. The number of births registered in the town was 2,121. Midwives notified 1,685 births, doctors 235, and parents and others 199. The returns of the Registrars of Births are compared with the notification lists, and a letter is sent to the parents of any child whose birth has not been notified reminding them of their duty. One hundred and fifty-one such letters were despatched during 1923, and a belated notification was, as a rule, sent after the receipt of the letter. These notifications are included amongst the 199 received from "parents and others." It is to be hoped that an early amendment of the law will require registration of births to take place within three or four days of their occurrence and thereby abolish the necessity for both notification and registration. The percentage of births attended by midwives was the same as in the two preceding years, 80%. The Health Visitors paid 22,978 visits during the year compared with 20,507 in 1922. Further particulars of the Health Visitors' work will be found in Appendix 42, Page 137. The number of visits of investigation into the financial circumstances of families applying for free milk has been further reduced from 893 to 433 by requiring most of the applicants to attend at the Centres. 1,632 home visits were required for this purpose in 1921.

The Regional Medical Officer of the Ministry of Health rents the Copy Nook Maternity and Child Welfare Centre for his Clinics, and until August he was assisted by a Health Visitor. The number of sessions had by that time increased so much that attendance at the clinic interfered seriously with the ordinary work of the Health Visitor concerned, and it was arranged that a District Nurse should assist the Regional Medical Officer.

*Infant Consultations and Schools for Mothers.* The five Centres continue in active operation. There are two sessions weekly at Copy Nook and one a week at each of the others. On the appointment in July of Dr. Frazer as Assistant Medical Officer of Health and Assistant School Medical Officer it was possible to arrange his work so that he could take the Copy Nook Centre each Thursday afternoon. Dr. Mackenzie is in medical charge of all the other Centres, and there is now a doctor at every Child Welfare Session.

The following table shows that the attendances numbered 17,942 compared with 14,392 in 1922.

	Adelaide Street.	Copy Nook (2 sessi'ns w'kly).	Nova Scotia	Kendal Street.	Griffin	Total 1923	Total 1922	Total 1921
Infants :—								
New cases under 1 yr.	101	293	148	233	157	932	797	1032
No. of re-attendances ...	1054	3135	1235	1953	1443	8820	7274	8604
New cases over 1 yr. ...	43	71	46	67	36	263	196	263
No. of re-attendances.	1111	2806	1219	931	1341	7408	5646	5704
Attendances of Infants	2309	6305	2648	3184	2977	17423	13913	15603
Consultations with Doctor	904	1552	981	982	1050	5469	4427	2824
Expectant Mothers :—								
No. of new cases .....	19	42	23	20	21	125	141	171
„ „ re-attendances...	98	135	79	33	49	394	338	409
Attendances of Expectant Mothers	117	177	102	53	70	519	479	580
Total attendances .....	2426	6482	2750	3237	3047	17942	14392	16183
Average attendance per session 1923.....	51.3	66.3	55.2	66.3	60.8	*366		
1922.....	37.4	54.6	45.5	46.4	56.0		*294	
1921.....	45.8	63.6	51.8	52.3	61.0			*338

\* Average attendance per week.

Of the children born in the first nine months of 1923, 37.8% had attended a Centre at least once before the close of the year. The corresponding figure for 1922 was 32.6%.

All the clinics are doing well and there was a record number of attendances. A gratifying feature is the increase in the number of consultations with the doctor at the Centres from 2,824 in 1921 to 5,469 in 1923. In 1920 they numbered 1,004 only. The personal advice given to a mother about her own child is the most valuable feature of the work done at a Child Welfare Centre, and judged on this basis our Centres are five times more efficacious than they were in 1920. The lives saved by the Child Welfare Centres can be measured approximately by comparing the rate of infant mortality in infants who attended and those who did not attend the Centres. Infants under one month have been excluded, otherwise the statistics would be weighted heavily in favour of the Centre babies. A baby is counted as a Centre baby if it attended only once, and when it is remembered that the most delicate babies are brought to the Centres it is very gratifying that the rate of infant mortality amongst

Centre babies was 22 per 1,000 and amongst non-Centre babies 31 per 1,000, showing a saving of 9 lives per 1,000. Of the 14 Centre babies who died two had made only one attendance, three two attendances, and two three attendances. Only four can be described accurately as regular attenders.

The voluntary assistance of members of the British Red Cross Society continues to be given unstintingly. There is an ample supply of enthusiastic volunteers. Their number at each Centre varies, according to the needs, from three to six.

*Supply of Milk to Expectant and Nursing Mothers and Young Children.* The expenditure increased from £514 in 1922 to £780 in 1923; 94 cases were in receipt of assistance at the beginning and 164 at the end of the year. There are several cases which have been on the books for months. They are large families where the father is unemployed or in receipt of a very low wage. Every case is investigated once a fortnight. I must thank the employers of the town for their courtesy in always answering so promptly enquiries with regard to the wages of their employees: 174 letters were despatched, and it was exceptional to find any serious under-statement of income.

The following table shows the number of families assisted:—

	1st Jan., 1923.	New Cases.	Cases dis- continued.	31st Dec., 1923.
Free .....	82	356	287	151
Quarter-price .....	10	65	64	11
Half-price .....	2	12	12	2
	—	—	—	—
Total, 1923 .....	94	433	363	164
	—	—	—	—
Total, 1922 .....	88	410	404	94
Total, 1921 .....	58	606	576	88

In cases where there has been a change from free milk to milk at a portion of the cost, or vice versa, it has been counted as a new case. The figures relate to "families" assisted; in some families the mother and one or two children were helped. The cost of the assistance granted during the past three years is as under:—

	Wet Milk.		Dried Milk.		Total.
	£		£		£
1923 .....	317	.....	463	.....	780
1922 .....	286	.....	228	.....	514
1921 .....	399	.....	392	.....	791

No assistance is given under our scheme to families so poor that they are receiving help from the Guardians. The Medical Officers of the Centres have, however, been supplied by the Clerk to the Guardians, C. E. Bygrave, Esq., with forms on which they can recommend the Guardians to supply milk to babies who appear to be in need of extra nourishment and whose parents are in receipt of out-relief.

*Deaths Associated with Pregnancy.* The figures relating to diseases and deaths associated with pregnancy are still very unsatisfactory. There were 14 deaths from causes due to pregnancy or parturition. They are equivalent to 6.7 per 1,000 births compared with 6.8 per 1,000 births in 1922 and 4.3 in 1921. There was in 1923 one maternal death for every 149 births, compared with one for every 145 births in 1922. These deaths are apart from cases in which a pregnant woman died from heart disease, tuberculosis, or other condition in which the disease was aggravated but not caused by pregnancy. As the following table shows the maternal mortality in Blackburn has been high for many years.

#### MATERNAL MORTALITY PER 1,000 BIRTHS.

1911-14.					1919-22.					
	Total.		Puerperal	Other com-		Total.		Puerperal	Other	
			Fever.	plications.				Fever.	Com'c'ns.	
Eg. & Wales.	3.78	...	1.49	...	2.29	4.11	...	1.57	...	2.54
Blackburn ...	6.55	...	2.39	...	4.16	6.19	...	2.13	...	4.06

It is not unlikely that the Blackburn high mortality is associated with the employment of so many married women in industrial occupations.

Five of the deaths which occurred in 1923 were due to puerperal fever. Of the nine deaths due to accidents and diseases of pregnancy, other than puerperal fever, two were caused by toxæmia, two followed incomplete abortion (one complicated by pyæmia, the other by broncho-pneumonia), two were due to hæmorrhage (one placenta prævia, the other post-partum), and the other three were caused by (1) pregnancy with influenza, nephritis, and uræmia : (2) pregnancy with pneumonia, (3) cerebral embolism five days after parturition.

The great majority of maternal deaths are preventable if the expectant mother is under medical supervision. Not one of the 14 women who died in 1923 as a result of pregnancy had had any ante-natal supervision whatsoever, and it is tolerably certain that in at least four of the cases the women would be still alive had they been under medical supervision throughout the later months of pregnancy. The essentials for preventing these deplorable deaths which occur under such pathetic circumstances are the provision of (1) ante-natal care for every expectant mother, and (2) Institutional care for those who require it.

*Ante-Natal Care.* Primarily for the purpose of making skilled diagnosis available for the patients of midwives, an ante-natal clinic was started at the Town Hall in the spring of 1921. Ninety-seven mothers attended during 1923. One was sent by a doctor and four by midwives; 18 were patients who had booked accommodation in the Municipal Maternity Home, and the rest were sent by Health Visitors or transferred from the Child Welfare Centres. The number sent by midwives is very unsatisfactory when it is remembered that 80% of the confinements are attended by them, and they as a rule see the patient before either a doctor or health visitor. The small number sent to the clinic does not mean that midwives send their ante-natal cases to private doctors, for only 8 records of sending for medical help for a complication of pregnancy were received during 1923.

In an endeavour to get midwives to take more interest in ante-natal work a circular was issued to them at the end of 1923 inviting midwives to ascertain certain particulars relating to every case booked by them. The particulars are to be entered in an ante-natal register supplied by the Health Department. If they do this for one year and examine the urine of every patient at least once before the confinement they will be entitled to a certificate of efficiency, issued by the Health Department. Seventeen midwives have intimated their desire to comply with the conditions of issue of the certificate. As a result of a concentration on the need for ante-natal work, the attendances at the ante-natal clinic have improved considerably. During the first three months of 1924 there were 78 new cases and 133 attendances.

During 1923 the total attendances at the Town Hall Ante-Natal Clinic were 153. The following complications were found:—Albuminuria, toxæmias of pregnancy, contracted pelvis, prolapse of uterus, malpresentations, venereal disease, cancer, heart disease, anæmia, bronchitis. In addition to the attendances at the Town Hall Clinic expectant mothers paid in 1923, 519 visits to the Maternity and Child Welfare Centres.



*Institutional Care.* Normal or slightly abnormal cases of confinement are admitted to the Corporation Maternity Home and the Queen's Park Hospital of the Guardians. Seriously abnormal cases are generally admitted to the Royal Infirmary. Seven of the fourteen deaths from accidents and diseases of pregnancy took place there.

*Municipal Maternity Home.* The Corporation in August, 1921, established, through the kindly co-operation of the Blackburn District Nursing Association, a small Maternity Home of six beds at the Nurses' Home in St. Peter Street. Its success was phenomenal. Within a few months it was obvious that the Home was meeting a long-felt need. Applications came from poor and middle-class alike, all anxious to have the best possible surroundings and conveniences for the impending confinements. A large number of applicants had to be refused. There was disappointment, and the Corporation felt justified in providing more accommodation than was possible at St. Peter Street. "Springfield House" was purchased and equipped for twenty patients. It is a large house situated in the best part of the town and surrounded by wooded grounds and lawns, the total area being 7,624 square yards. On the ground floor there are three large entertaining rooms, two kitchens, two sculleries, larders, and lavatory. On the first floor, linen cupboards, two bathrooms, sink room, dressing-room, three large and four smaller bedrooms. On the second floor a bathroom, a very large bedroom, and four smaller ones. The basement accommodation consists of a large and well-lighted billiard-room, several store rooms and washing and ironing rooms. There are also five conservatories. The total cost when the furnishing is complete will be :—

	£
Purchase of House and Legal Charges .....	3,065
Purchase of Ground Rent and Legal Charges .....	1,040
Cost of Alterations and Adaptation .....	1,595
Furnishing .....	1,500
	<hr/>
	£7,200

The capital cost has been defrayed—£4,105 by a loan repayable within 30 years, £2,785 by a loan repayable within 10 years, and £310 has been defrayed out of current account. There are two wards for five patients and wards for four, three, and two patients each. There is a separate ward with a single bed for special cases. Every patient is confined alone in a separate labour ward fitted with every modern convenience. A large conservatory has been transformed into a beautiful rest room furnished like a winter garden. This is a sun-trap, heated also by pipes, in which convalescent

patients can sit in warmth and comfort on the coldest day. Any patient is admitted at a charge of £4 14s. 6d. a week, which includes everything except medical charges, which are arranged between the patient and her own doctor. In most cases there is no medical charge as the confinements are attended by the midwives. Patients who cannot afford the full fee are assessed according to their income, the charge made to the poorest being such that no one is refused on the ground of inability to pay. The Springfield Home was opened on the 1st November, 1923, and particulars of the 83 patients treated at the St. Peter Street Home before then and of the 25 treated at Springfield after then are given in Appendices 43 and 44 (Pages 139 and 140).

The thanks of the Corporation are due to the District Nursing Association for having allowed their premises to be used for demonstrating that there is a need for a Maternity Home in Blackburn. The Corporation were also at the advantage that while the St. Peter Street premises were in use the cost of houses, of alterations, and of furniture were all reduced considerably, with the result that the capital cost of a Maternity Home such as the town now possesses would have been very much more in 1921 than it was in 1923.

The following table shows that between August, 1921, and October, 1923, 198 patients were admitted to the St. Peter Street Home. The total number of patient days was 2,920. The Corporation paid the Association £2,066, which is 14s. 2d. per patient day. The Corporation received from the patients £1,221, which is 8s. 4d. per patient day. The balance, £845, or 5s. 10d. per patient day, was paid in equal shares by the rate-payer and the tax-payer.

#### ST. PETER STREET MATERNITY HOME.

August, 1921—October, 1923.

No. of Individual Patients .....	198
Total No. of Patient Days .....	2,920
Paid by Corporation to District Nursing Association ...	£2,066
Paid to Corporation by patients .....	£1,221
Difference .....	£845

In November, 1923, the Health Committee passed the following resolution :—

“ That the Committee desire to place on record their appreciation of  
“ the assistance given by the Blackburn Nursing Association in the estab-

“ lishment and conduct of the Municipal Maternity Home and the admirable manner in which they have carried out the nursing there during the period of more than two years from the inauguration of the Home until its removal to Springfield.”

My especial thanks are due to Lady Thom and Mr. Wm. Carmichael, the Honorary Secretary and the Honorary Treasurer, and to Miss Moore, the Matron, for their cordial co-operation with me and the members of my staff in our efforts to make the St. Peter Street Maternity Home the success it was.

*Home Nursing.* It is convenient here to give particulars of the domiciliary nursing done for the Corporation by the District Nurses during 1923. The charge is a retaining fee of £35 per annum and a payment of 8d. per visit.

Disease.	On books Jan. 1st 1923	New cases.	Cured	Died.	Hospital	Remaining at end of 1923.	Total No. of visits 1923.	Total No. of visits 1922.
Tuberculosis ...	5	16	6	10	1	4	1008	1052
Pneumonia .....	4	164	114	40	5	9	2832	2232
Puerperal Fever	2	5	6	0	1	0	112	123
Whooping Cough	0	3	0	0	1	2	11	0
Ophthalmia Neonatorum.....	0	7	4	0	2	1	176	170
Measles .....	3	5	8	0	0	0	140	150
Total.....	14	200	138	50	10	16	4279	3727

*Maternity Bags.* The bags were lent on 27 occasions compared with 28 in 1922.

*Dental Treatment.* There is still active prejudice against dental treatment on the part of expectant and nursing mothers. The Corporation Dentist devoted six sessions to Child Welfare cases. Sixteen patients made 19 attendances for extractions and fillings. They were four mothers and twelve young children.

*Stillbirths.* The number of stillbirths notified during the year under

the Notification of Births Acts was 103 compared with 100 in 1922 and 132 in 1921. The 103 stillbirths are a rate of 5.4 per 1,000 registered live births. The latest available figure for England and Wales is for 1921. It was 3.2. Twenty-five of the stillbirths were notified by doctors and 78 by midwives. In 18 cases a doctor only attended the confinement; in 48 a doctor and a midwife, and in 37 a midwife only. In 62 cases the fœtus had arrived at full term; in 12 the maturity was eight months, and in 20 seven months. In at least 35 cases the cause of the death was contracted pelvis or largeness of the child, or both. All these deaths and 24 others due to toxæmias and malpresentations were probably preventible if the mother had had antenatal supervision. In 8 cases syphilis was probably the cause. Experience elsewhere shows that excellent results follow treatment of syphilitic expectant mothers. Fifty of the mothers were employed in cotton mills during pregnancy and 43 in housework at home.

*Midwives Acts.* Forty-three midwives notified their intention to practice during the year, compared with 39 in 1921; two resigned, leaving 41 on the register at the end of the year. Ten of the midwives are untrained. The 31 trained midwives attended 1,541 confinements, an average of 49 each midwife. They sent for medical help on 310 occasions, that is for 20% of the cases attended by them. The 10 untrained midwives attended 229 confinements, an average of 22 each midwife. They sent for medical help on 58 occasions, that is for 25% of the cases attended by them. Altogether 368 records of sending for medical help were received from midwives compared with 351 in 1922. These do not include Maternity Home cases. Eight of the calls were for abnormalities of pregnancy, 138 were for unusual presentations or obstructed labour, 87 for ruptured perinæum, 15 for excessive hæmorrhage, 23 for illness of the mother during the lying-in period, 18 for inflammation of the infant's eyes or eyelids, and 58 for other weakness or defect in the child. Full particulars are given in Appendix 45 (Page 141).

Midwives sent 19 records of discontinuance of breast feeding compared with 36 in 1922. The reasons given were: Illness of the mother, 3; "on medical advice," 9; retracted nipples, 4; "lack of milk," 2; hare lip, 1.

Sixty-four accounts were sent to the Corporation by doctors for services rendered to patients to whom they had been summoned in an emergency by a midwife. This compares with 45 in 1922. Fourteen of the accounts came from one practitioner, 8 each from two others, 7 from another, 6 from another, 4 from another, 2 each from four others, and

1 each from nine others. The accounts amounted to £78 11s. 6d. The Sub-Committee concerned assessed the patients to pay £16 1s. 6d.; £12 14s. 6d. was paid during the financial year 1923-24.

During 1923 it was necessary to reprimand only one midwife. She had agreed to attend the confinement of a woman who was deformed, and who subsequently required Cæsarean section, without seeing the patient or making any inquiry as to whether or not the confinement was likely to be difficult.

During the year 83 routine, 36 special, and 72 ineffective visits were paid to the homes of midwives. The Assistant Medical Officer of Health interviewed midwives at the Town Hall on 73 occasions.

On the removal of the Maternity Home in November the District Nursing Association arranged to provide the services of a trained midwife to attend confinements in the patients' homes.

*Puerperal Fever.* Twelve cases of puerperal fever were notified: this is 5.7 per 1,000 births compared with 3.2 in 1922. Four of the notified cases died. There was one other death from puerperal fever. This case was investigated by the Coroner. Two of the notified cases were treated at the Royal Infirmary, two at the Corporation Hospital, and eight at home. Two of the hospital and three of the home cases were fatal. A doctor alone attended the confinement in seven cases, and a midwife and a doctor in the others. Anti-streptococcic serum was obtained from the Health Department for one of the fatal cases.

*Ophthalmia Neonatorum.* Nineteen cases of ophthalmia neonatorum were notified during 1923. Four related to patients who live outside the borough. The following table gives the notifications of Blackburn cases during the last seven years:—

	1917.	1918.	1919.	1920.	1921.	1922.	1923.
Number of Cases .....	7	15	18	22	23	19	15
Rate per 1,000 Births..	4.3	9.6	9.7	7.7	9.1	8.7	7.2

The reduction in the number of cases is due partly to a decrease in the incidence of venereal disease and partly to an increasing use by midwives of silver nitrate drops, which they put into the infant's eyes immediately after its birth.

Fourteen of the 1923 cases were notified by private doctors and one by a midwife.



The following table, suggested by the Ministry of Health, gives a summary of the results of treatment. It is gratifying that this disease, which was formerly the commonest cause of total blindness occurring in infancy, has not caused any impairment of vision in Blackburn cases in the past two years.

OPHTHALMIA NEONATORUM.

	1922.	1923.
Cases Notified .....	19	15
Cases Treated at Home .....	17	11
Cases Treated in Hospital .....	2	8
Vision Unimpaired .....	19	14
Vision Impaired .....	—	—
Total Blindness .....	—	—
Still Under Treatment .....	—	1
Deaths .....	—	—

Five of the cases treated at home were attended by a District Nurse.

*Care of Illegitimate Children.* There has been close co-operation with the Manchester Diocesan Association for Preventive and Rescue Work in the work of their "Viewfield" Hostel for illegitimate children and their mothers. The Hostel is situated in Blackburn, but the babies come from all parts of the Diocese. Dr. Mackenzie makes the following report :—

	Mothers.	Babies.
" Number of Beds .....	13	17
Number of Cases Admitted .....	13	18
	Months.	Months.
Average Duration of Stay .....	5	7

Number not entirely breast fed while in the Institution, 5.

Number discharged on account of illness, 1.

This child was sent to the Blackburn Royal Infirmary and died of meningitis eleven days after admission.

Babies with their mothers are received from a fortnight old, and can stay till they are 18 months old. At present there are also four baby boarders, aged 18 months to 2½ years, whose mothers are in service in the town."

The Assistant Medical Officer of Health visited the Hostel on seven occasions, once to give a lecture on "Health" to the mothers, and six times to advise regarding feeding of infants.

The general health of the mothers and babies has been good on the whole. A slight epidemic of colds and coughs occurred in December. The feeding of the infants is carried out on the lines recommended by Dr. Truby King, and the importance of fresh air for growing infants is emphasised and put in practice.

#### EDUCATION ON HEALTH.

The educational work described in the Reports for the past two years has been continued and is highly successful.

Unfortunately there is still a great lack in this country of cinematograph films on health subjects. It is very important that some central body should concern itself with this matter and produce or import suitable films, as there is no easier way of collecting an audience than by advertising a free cinematograph display, and, when the audience has been gathered together, there is no easier way of driving home the health message than by a film preceded by a short address.

Another need in a campaign of public health education is the issue of a monthly or quarterly Health Bulletin. Few Authorities are large enough to publish one for themselves and, except for a small amount of local matter, the material for such a bulletin could best be produced centrally and distributed to the participating local health authorities, who would add the local matter. The central material should contain a striking picture dealing with the health message to which particular attention is being called. A similar combination of central and local publication is to be found in parochial magazines. The health bulletin would be distributed through the Child Welfare and other clinics, either free or at a small payment at the discretion of the Local Authority concerned.

The production of such a bulletin, as the establishment of a film distribution agency, would require capital, but charges for the bulletin and for the loan of the films would soon repay the outlay.

The Ministry of Health, the Society of Medical Officers of Health, the Royal Sanitary Institute, or a combination of all three, together with representatives from the Association of Municipal Corporations and County Councils, would make an appropriate central body.

During a week in April a highly successful publicity campaign was

held in Blackburn by Mr. Partington, an Organiser of the National Council for Combating Venereal Diseases. Films dealing with biology, sex hygiene and venereal diseases were shown at every evening meeting. The lantern was supplied with electricity from the cinema lorry and in this way the cinema lantern could be used in any building independently of whether or not a public electricity supply was available. The week commenced on the evening of Sunday, 8th April, by a meeting held in the Prince's Theatre : it was attended by 1,500 people. Dinner-hour addresses were given every day during the week at factories and works. Every evening until Saturday a meeting was held in a school or hall in the outskirts : all were filled to their utmost capacity and many were turned away. On Saturday, 14th April, a mass meeting attended by 3,000 was held at King's Hall and was addressed by His Worship the Mayor, the Vicar of Blackburn, and the Rev. C. H. Hulbert. Superintendent of the Wesleyan Mission.

The clergy of every denomination were most helpful, and the Roman Catholic Bishop, the Chairman of the Free Church Council, and other clergy spoke at our meetings. The week concluded on Sunday, April 15th, with a meeting in the Princes Theatre for men only, at which an adaptation of the film "Whatsoever a Man Soweth" was shown. The theatre will hold 3,000 : it was filled an hour before the advertised time for starting. These meetings attract many who come out of curiosity and who would not be reached by newspaper advertisements or in any other way. Lads of the hooligan type who go to scoff are profoundly impressed and many, no doubt, retain a certain proportion of the facts put before them by the pictures or the speaker. After the campaign a number of men who had exposed themselves to infection attended the venereal diseases clinic to ascertain whether or not they had been infected.

Our series of popular lantern and cinematograph lectures on general health subjects were continued, but the attendance at the cinematograph lecture on teeth was small owing to the torrential rain which fell throughout the day and night of the lecture. Particulars are :—

<i>Date.</i>	<i>Title.</i>	<i>Lecturer.</i>	<i>Attendance.</i>
Jan. 16—	Heart Disease and Its Prevention .....	Dr. John Hay .....	1,450
Feb. 20—	Mental Health and Its Preservation (No. 1) .....	Dr. C. H. Bond .....	1,000
Mar. 20—	Do. do. (No. 2) .....	Do. Do. ....	800
Nov. 13—	Care of Teeth .....	Mr. G. Thompson .....	500
Dec. 12—	Eyesight .....	Professor W. Stirling .....	1,100

A considerable number of small meetings was addressed, and by the free discussion which follows these more informal gatherings, they are possibly more helpful to the audiences even than the large popular addresses.

For the third year in succession a series of lectures on health subjects was arranged for the members of the St. John Ambulance Brigade.

A number of addresses has also been given to the girls attending the Whalley Range Domestic Science Evening School. Several courses of lectures on Mothercraft were given by the Health Visitors to elementary school girls attending the Preston New Road Housecraft Centre.

Altogether 33 meetings were addressed in Blackburn, and the attendances numbered 18,930. For fuller details see Appendix 46 (Page 142).

The total cost of this educational work for the financial year 1923-24 was approximately £225.

The Press are very kind in giving full reports of our meetings, and by this means our health messages are conveyed to every house in the town.

## FINANCE.

An attempt has been made in the diagram on the opposite page to compare the cost of the Public Health Department's services in the last pre-war year, 1913-14, and in the last financial year, 1922-23, for which accurate figures are available.

The figures include all expenditure, including loan charges; also the salaries of the Medical Officer and Veterinary Inspector, which were charged, not to the General District Rate Account, but to the Borough Fund. The gross expenditure in 1913-14 was £17,683; in 1922-23 it had increased to £35,756.

Column 1 shows how the expenditure in 1922-23 was allocated between the more important divisions of the work. Column 2 shows that the expenditure in 1922-23, after deducting all income other than Government grants, was £29,163. The main sources of income were:—

VENEREAL DISEASES.—Payment from the Lancashire County Council for out of the borough cases.

MATERNITY AND CHILD WELFARE.—(1) Payment for dried milk sold at cost price at the Maternity & Child Welfare Centres; and (2) patients' contributions towards the cost of their maintenance in the Maternity Home.

CORPORATION AND FINNINGTON HOSPITALS.—Payment for the treatment of out of the borough cases.

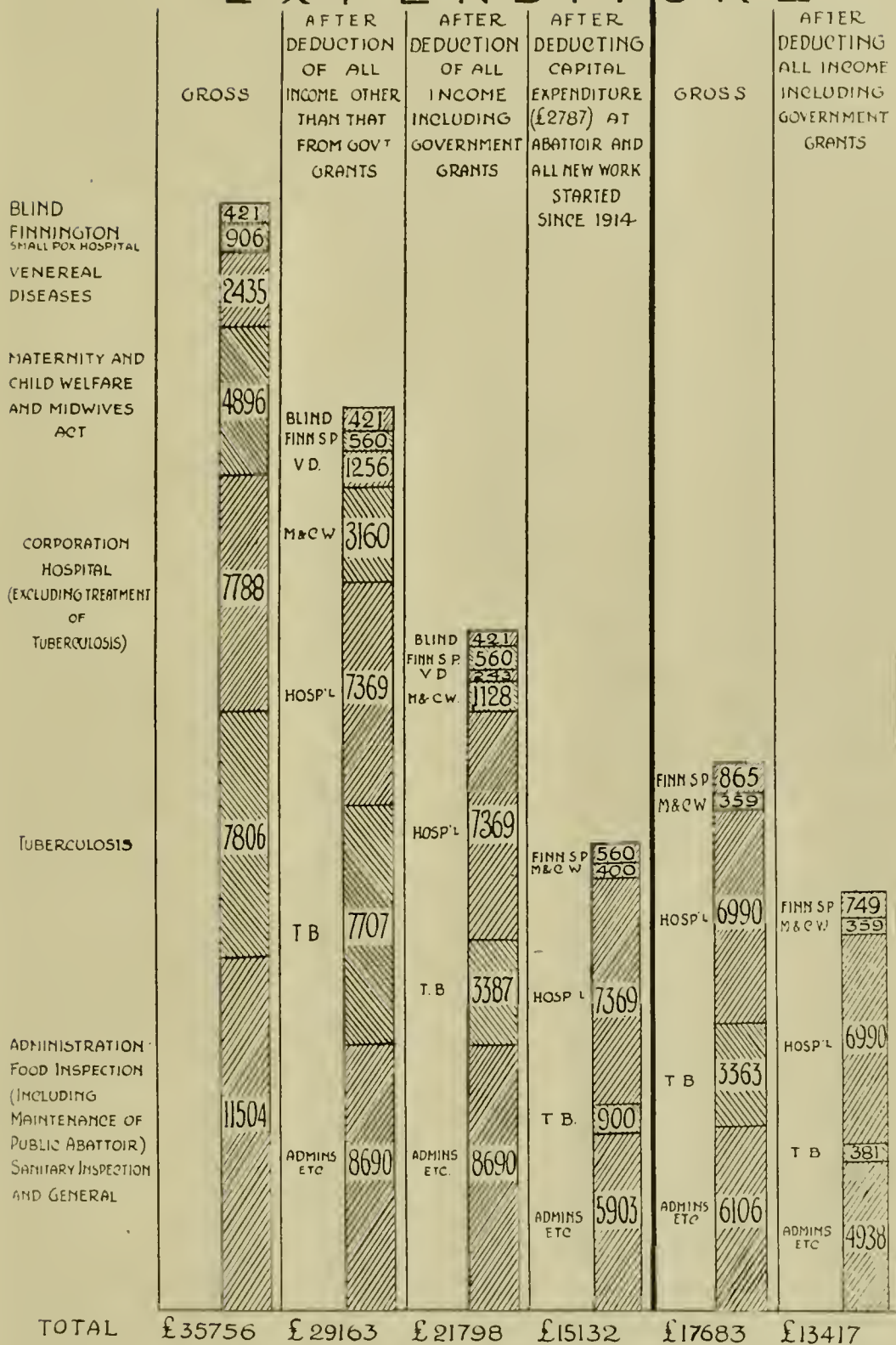
PUBLIC ABATTOIRS.—Rents and tolls.

Column 3 gives the net cost to the ratepayers, namely, £21,798; the difference between Columns 3 and 2, namely, £7,365, represents Government grants. This includes £254 received considerably in arrear from National Health Insurance Funds for the treatment of insured persons before the Sanitary Authority became responsible in 1921 for the treatment of both insured and non-insured cases of tuberculosis. Government grants are paid at the rate of 50% of the expenditure on anti-tuberculosis and maternity and child welfare schemes and at the rate of 75% of the expenditure on the



# 1922-1923 EXPENDITURE

1913-1914





scheme for the diagnosis and treatment of venereal diseases. The grants were :—

Tuberculosis .....	£4,066
Maternity and Child Welfare .....	£2,032
Venereal Diseases .....	£1,013
Arrears from Insurance Committee for Treatment of Tuberculosis .....	£254
	<hr/>
	£7,365

An endeavour is made in Column 4 to set out the present-day cost of the Public Health Services which were in existence in 1913-14. Expenditure on the welfare of the blind was not incurred until 1923. The scheme for diagnosing and treating venereal diseases was not put into operation until 1917. In 1913-14 the only expenditure on Maternity and Child Welfare was the payment of four Health Visitors. There was no Government grant then, and the present-day cost to the Blackburn ratepayers of these four Health Visitors is approximately £400. In 1913-14 the gross expenditure on tuberculosis treatment was £3,363, of which £2,224 was received from the Insurance Committee and £758 from Government grant. That was the only Government grant in aid of health services received at that time. In 1913-14 the cost of the anti-tuberculosis scheme to the ratepayers was £381 only, and this was one-half the cost of the treatment of non-insured persons in hospital and sanatorium. The present-day cost of this branch of anti-tuberculosis work has been very difficult to estimate, but the cost to the ratepayers of providing institutional treatment for non-insured adult cases of pulmonary tuberculosis is not more than £900. The Tuberculosis Dispensary was not in operation in 1913-14. The cost to the ratepayers of the Finnington Hospital was less in 1922-23 than in 1913-14, because a larger number of Authorities now retain beds there. The expenditure of £7,369 on the Corporation Hospital in 1922-23 includes capital expenditure on an X-Ray outfit and heavy items for repairs necessary owing to neglect of the fabric which took place during the war. The item of £5,903, the net cost of the public abattoirs and of administration, food and sanitary inspection in 1922-23, has been derived from Column 3 by the subtraction of £2,787, the capital cost of the new lairage at the abattoir, which was defrayed out of revenue. It may be estimated that the sum of £15,132 represents the cost in 1922-23 of what cost £13,417 before the war, and as the £15,132 includes the cost of some small items such as X-Ray apparatus, health publicity and domiciliary nursing of pneumonia, which

were not provided in 1913-14, a more exact allocation of the 1922-23 expenditure would bring it even closer to the pre-war cost. In view of the increased cost of food, materials and wages, this result, which is an increased expenditure of 13% only, may be regarded as quite satisfactory.

### LOCAL ACTS AND ORDERS.

A list of Local Acts, Adoptive Acts, and of Bye-laws in force in Blackburn in 1922 was given in my report for that year.

The only additions are :—

- 1.—The County Borough of Blackburn (Offensive Trades) Confirmation Order, 1923.
- 2.—Bye-laws for the better control of offensive trades.

### CONCLUSION.

*Staff.* In conclusion, it is my duty and pleasure to record again my appreciation of the strenuous work carried out throughout the year by all the members of my staff.

Where all have filled their part with credit, it is impossible to individualise beyond saying that Dr. Lamont, Dr. Mackenzie, Mr. Burndred, Mr. Graham, and Mr. Fowler have all contributed valuable information for inclusion in this Report.

*Acknowledgments.* The following have been kind enough to supply figures and information included in the preceding pages :—The Borough Treasurer, the Borough Engineer, the Gas Engineer, the Electrical Engineer, the Clerk to the Guardians, the Secretary of the Royal Infirmary, the Secretary of the Charity Organisation Society, the Actuary of the Blackburn Savings Bank, the Manager of the Employment Exchange, and the officials of the Blackburn (Amalgamated) Co-operative Society, Ltd.

I must again express my grateful thanks to the Chairman, Deputy-Chairman, and Members of the Health Committee for the ready and courteous manner in which my suggestions and recommendations have invariably been received.

I have the honour to be,

Your obedient servant,

W. ALLEN DALEY,

Medical Officer of Health.

# APPENDIX I.

## Extracted from Report on the 1921 Census.

County Borough and Civil Parish.	Area in Statute Acres (Land and Inland Water).	Total Population.					Private Families and Dwellings.				
		1911.	1921.			Persons per Acre	Private Families	Population in Private Families.	Structurally separate dwellings occupied	Rooms occupied.	Rooms per person.
			Persons	Males	Females						
Blackburn C.B.&C.P.	7420	133052	126643	57647	68996	17.1	31608	123524	30948	136984	1.11
Wards:											
Park .. ..	651	9774	9479	4227	5252	14.6	2331	9157	2331	9891	1.08
St. Andrew .. ..	921	10988	10706	4881	5825	11.6	2747	10681	2686	11462	1.07
St. John .. ..	101	7836	7186	3266	3920	71.1	1876	7122	1830	8022	1.13
St. Luke .. ..	168	8422	7572	3471	4101	45.1	1936	7552	1872	7753	1.03
St. Mark .. ..	403	10457	10427	4682	5745	25.9	2661	10381	2593	11715	1.13
St. Mary. .. ..	174	6454	5525	2616	2909	31.8	1271	5063	1212	5159	1.02
St. Matthew .. ..	107	10001	9321	4260	5061	87.1	2357	9201	2334	9616	1.05
St. Michael .. ..	623	9254	8975	4091	4884	14.4	2254	8934	2242	9793	1.10
St. Paul .. ..	123	10073	9771	4392	5379	79.5	2532	9734	2445	10869	1.12
St. Peter .. ..	133	7009	6719	3250	3469	50.5	1581	6270	1497	6607	1.05
St. Silas .. ..	985	9505	9009	3842	5167	9.1	2440	8851	2417	13316	1.50
St. Stephen .. ..	1163	10783	11021	5062	5959	9.5	2691	11004	2635	11847	1.08
St. Thomas .. ..	1718	12828	12068	5553	6515	7.0	2726	10919	2669	11832	1.08
Trinity .. ..	150	9668	8864	4054	4810	59.1	2205	8655	2185	9102	1.05



## APPENDIX 2.—Meteorological Report for the Year 1923.

1923	Mean Pressure of Barometer.		Mean Relative Humidity.	Mean of Maximum and Minimum Temperature.	Mean Temperature at 9 a.m. Readings	Under-ground Temperature		Mean Black Bull in Vacuo.	Absolute extremes of Temperature.			Mean daily minimum on the grass.	Mean depression of minimum on grass below the shade.	Total bright sunshine.	Most sunshine in one day.		Direction of the Wind.							Total rainfall.			
	Sea Level.	Station Level.				at 1 ft.	at 4 ft.		Highest.	Lowest.	Date.				Date.	Am't.	Date	N.	N.E.	E.	S.E.	S.	S.W.		W.	N.W.	
	inches	inches	%	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	hrs. min.	hrs. min.	Inche											
January ..	29.464	30.009	92.70	41.10	48.30	40.30	42.30	59.40	51.0	8th	29.0	14th	35.00	2.50	24—0	5—15	21st	...	...	...	1	4	1	21	4	3.425	
February	28.930	29.450	95.30	39.38	47.14	40.01	42.50	63.53	52.5	2nd	27.0	21st	33.57	2.03	38—35	6—40	5th	...	...	10	2	9	2	4	1	6.540	
March ...	29.427	29.977	86.20	42.57	48.88	34.38	40.80	83.48	63.5	28th	33.0	12th	34.98	2.61	81—15	9—0	18th	3	...	15	...	9	...	3	1	1.485	
April .....	29.184	29.724	87.90	43.17	49.08	43.73	43.07	95.13	59.0	12th	31.0	23rd	34.70	2.26	130—10	12—10	23rd	2	...	17	...	8	1	2	...	2.815	
May .....	29.324	29.880	87.51	45.64	51.09	47.34	45.98	105.0	68.0	4th	34.0	17th	36.53	3.06	147—0	11—45	8th	4	1	7	...	1	...	11	7	3.760	
June .....	29.553	30.066	96.71	51.73	55.60	51.71	47.58	108.4	65.0	9th	38.0	17th	44.78	1.82	109—20	13—5	3rd	5	...	3	...	2	...	18	2	1.125	
July .....	29.398	29.869	94.61	60.89	62.20	58.38	53.58	116.54	88.5	13th	49.0	27th	52.17	2.26	135—45	11—45	7th	...	...	2	1	2	4	...	22	...	4.580
August ...	29.335	29.830	87.80	56.72	60.29	58.50	55.22	113.80	74.0	6th	43.0	29. h	47.87	3.22	116—40	11—5	5th	...	...	1	...	11	...	19	...	5.325	
September	29.343	29.853	87.23	51.89	56.76	52.82	53.52	105.70	66.0	30th	41.0	10th	43.83	2.83	118—20	10—10	9th	...	...	...	...	1	7	4	18	...	5.565
October ...	29.066	29.575	88.41	48.13	56.77	48.88	50.08	88.12	70.0	1st	36.0	5th	39.38	4.13	57—20	6—35	5th	...	...	1	1	6	2	20	1	5.875	
November	29.211	29.748	88.23	38.14	50.16	40.51	45.28	59.63	54.0	3rd	26.0	30th	27.90	5.92	41—35	5—40	8th	...	...	1	11	...	1	3	11	3	5.540
December	29.380	29.870	95.32	37.64	50.45	37.45	40.37	44.60	47.0	18th	26.0	26th	29.76	4.14	21—55	4—30	24th	1	1	5	1	8	2	11	2	4.365	
Total or Average	29.301	29.820	90.63	46.41	51.06	46.16	46.69	86.93					38.32	3.06	85—12			15	571	870	151	60	21	50	380		

## APPENDIX 2—contd.

## METEOROLOGY.

Climatological Station—Corporation Hospital.

600 feet above sea level.

	1922	1923
Highest reading of maximum thermometer..	81.0 June 2.	88.5 July 13.
Lowest reading of minimum thermometer...	21.0 Feb. 6.	26.0 Dec. 26.
Total rainfall .....	*39.277 ins.	*50.380 ins.
No. of days on which rain fell .....	224	270
No. of days without any bright sunshine ...	96	96

Direction of prevailing wind :—

	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
1923 .....	15	5	71	8	70	15	160	21
1922 .....	15	6	94	7	76	17	112	28

## THIRD QUARTERS.

	1922.	1923.
Mean Atmospheric Temperature .....	53.6	53.17
Mean Temperature 1 ft. below the ground.	54.3	53.23
Mean Temperature 4 ft. below the ground.	52.4	54.10
Total amount of bright sunshine in hours.	306	380
No. of rainy days .....	61	73
Amount of rain .....	13.755 ins.	15.470 ins.

\* Average of nine gauges in the town and neighbourhood : 1922, 46.28 ;  
1923, 56.5.

## APPENDIX 3.

INFORMATION REQUIRED BY THE MINISTRY OF HEALTH  
REGARDING NURSING ARRANGEMENTS, HOSPITALS, AND  
OTHER INSTITUTIONS AVAILABLE FOR THE DISTRICT.

## 1. PROFESSIONAL NURSING IN THE HOME.

The Blackburn District Nursing Association employ a staff of 11 Nurses. They attend infectious cases by agreement with the Corporation (see page 61). The total number of visits paid by the District Nurses during 1923 was 29,029.

## 2. MIDWIVES. (See page 62).

The Local Authority do not employ or subsidise Midwives. Forty-one Midwives practice in the town, three of whom are on the staff of the District Nursing Association.

## 3. CLINICS AND TREATMENT CENTRES.

## (a) Maternity and Child Welfare Centres.

Monday, 2 p.m., 26, Adelaide Street. Tuesday, 2 p.m., 41 & 43, Copy Nook. Wednesday, 2 p.m., School Street School. Thursday, 2 p.m., (1) 41 & 43, Copy Nook and (2) Kendal Street School. Friday, 2 p.m., Griffin Parochial Hall. Saturday, 10 a.m., Special Ante-Natal Clinic at the Town Hall.

All these Centres are municipal. There is no Voluntary Centre.

## (b) Day Nurseries. None.

## (c) Tuberculosis. Municipal Dispensary, Duke Street, open 2 p.m. each Monday, Tuesday, Thursday, Friday, and 7 p.m. each Thursday.

A special Clinic for surgical cases is held at 4 p.m. on the third Friday in each month.

## (d) V.D. Treatment Centres.

Blackburn and East Lancashire Royal Infirmary. Men's Clinic, Tuesday, 5 p.m.; Friday, 7-30 p.m. Women's Clinic, Monday, 5-30 p.m.; Thursday, 6 p.m. Town Hall: Special cases in women and children are seen in the mornings by appointment.

## (e) School Clinics.

NAME.	PURPOSE.	WHERE HELD.	TIMES.
Inspection Clinic.	Special Examination of Cases Referred by Teachers, School Attendance Officers, and School Nurses.	Health Department, Town Hall.	Tuesdays, 2 p.m. Saturdays, 9-30 a.m.
Ophthalmic Clinic.	Prescription of Spectacles.*	" "	Mondays, 1-30 p.m. Thursdays, 9-30 a.m.
Dental Clinic.	Dental Treatment.	" "	Every week-day (by appointment).
Minor Ailments Clinic	Treatment of Minor Diseases of Skin, etc.*	" "	Every week-day at 8-45 a.m.
" "	" " "	119, Bolton Road.	Mondays to Fridays at 3-45 p.m. Saturdays, 9-0 a.m.
Cleansing Station.	Treatment of Scabies and Cleansing Vermineous Cases.	Throstle Street.	Arranged as required.
Throat Clinic.	Operative Treatment of Adenoids and Enlarged Tonsils.	Out-patients at Blackburn & East Lancashire Royal Infirmary: In-patients at Queen's Park Hospital.	Saturday mornings as required.
Remedial Exercises.	Treatment of Deformities.	Health Department, Town Hall.	Mondays and Thursdays, 2-0 p.m. Other times by appointment.

\* To be transferred to 68, Victoria Street, in May, 1924.

## 4. HOSPITALS PROVIDED OR SUBSIDISED BY THE LOCAL AUTHORITY.

## (I.) Tuberculosis.

Thirty-two beds for intermediate and advanced cases in adults are provided at the Corporation Hospital, Park Lee Road. Since May 1st, 1923, twenty beds for children have been provided.

Nine beds for early cases in adults are retained at the Westmorland Sanatorium, Grange-over-Sands. Other accommodation is obtained as required.

(II.) Maternity.

Maternity Hospital, District Nurses Home, St. Peter Street : 6 beds. This Hospital was transferred to "Springfield," Preston New Road, on November 1st, 1923. The accommodation at Springfield is for 20 patients.

(III.) Children. None.

(IV.) Fever.

The Corporation Hospital, Park Lee Road. On the basis of 2,000 cubic feet per patient accommodation is provided for 98 patients. A pavilion for 28 fever patients has, however, for many years been used for tuberculosis patients (32 beds.) Since May 1st a pavilion of 34 beds has been used for 20 resident pre-tuberculous children, and for a Day Open-Air Class for delicate children. This leaves 36 beds for fever patients which can, at short notice, be increased to 70 by disbanding the Open-Air School.

(V.) Smallpox.

The Finnington Hospital will provide accommodation for 60 patients.

ANY INSTITUTIONAL PROVISION FOR UNMARRIED MOTHERS, ILLEGITIMATE INFANTS, AND HOMELESS CHILDREN.

The Queen's Park Institution of the Board of Guardians provides accommodation for these cases.

The "Viewfield" Home of the Manchester Diocesan Association for Preventive and Rescue Work is situated in Oozehead Lane, and will accommodate 17 illegitimate children and their mothers.

AMBULANCE FACILITIES.

(a) For Infectious Cases.

The Local Authority have two motor ambulances. They are garaged at the Corporation Hospital.

(b) For non-infectious and accident cases.

The Watch Committee have provided an ambulance garaged at the Fire Station. The Joint Committee of the British Red Cross Society and the St. John Ambulance Brigade also have an ambulance. It is kept at the Fire Station. It is used mostly for out of the Borough Cases, but it is available when required for cases within the Borough.



## APPENDIX 4.

## WELFARE OF THE BLIND.

Table I.

Age Period.	Males.	Females.	Total.
0—5 .....	—	—	—
5—16 .....	3	3	6
17—21 .....	5	5	10
22—30 .....	11	9	20
31—40 .....	7	9	16
41—50 .....	14	13	27
51—60 .....	20	26	46
61—70 .....	15	39	54
71—upwards .....	7	22	29
Total .....	82	126	208

Table II.

## AGE WHEN BLINDNESS COMMENCED.

Age Period.	Males.	Females.	Total.
0—1 .....	16	19	35
1—5 .....	4	5	9
5—10 .....	7	8	15
10—20 .....	8	7	15
20—30 .....	5	11	16
30—40 .....	14	12	26
40—50 .....	7	12	19
50—60 .....	11	24	35
60—70 .....	7	17	24
70—upwards .....	1	5	6
Unknown .....		8	

Table III.

## (a)—EMPLOYMENT. AGE PERIOD 16 AND UPWARDS.

	Males.	Females.	Total.
Employed .....	33	12	45
Trained but Unemployed .....	3	—	3
Under Training .....	—	5	5
No Training, but Trainable .....	2	—	2
Unemployable .....	41	106	147
Total .....	79	123	202

## (b).—OCCUPATIONS OF EMPLOYED.

Agents, Collectors, etc. ....	2
Basket and Cane Workers .....	14
Boot Repairers .....	1
Clerks, Typists .....	1
Telephone Operators .....	1
Dealers (Tea Agents, Shopkeepers, etc.) .....	5
Hawkers .....	4
Home Teachers .....	2
Knitters .....	5
Labourers .....	1
Massage .....	1
Matmakers .....	1
Musicians and Music Teachers .....	1
News Vendors .....	2
Miscellaneous .....	4
<hr/>	
Total .....	45

Table IV.

## PHYSICALLY AND MENTALLY DEFECTIVES.

	Males.	Females.	Total.
Mentally Defective .....	5	6	11
Physically Defective .....	1	3	4
Deaf .....	4	7	11
	<hr/>	<hr/>	<hr/>
	10	16	26

Table V.

## SCHOOL AGE PERIOD (5—16) ACCORDING TO MENTAL OR PHYSICAL DEFECTS.

	Males.	Females.	Total.
Normal—at School .....	2	3	5
Normal—not at School .....	1	—	1
Mentally Defective (a) .....	—	—	—
Physically Defective (b) .....	—	—	—
Deaf (c) .....	—	—	—
Combinations of (a) (b) & (c) .....	—	—	—
	<hr/>	<hr/>	<hr/>
Total .....	3	3	6

June 30th, 1923.

**APPENDIX 5.**  
**Vital Statistics of Whole District during 1923 and Previous Years.**

YEAR.	Population estimated to Middle of each Year	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.			TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Un- corrected Number.	Nett.		Number.	Rate.	of Non- residents registered in the District.	of Resi- dents not registered in the District.	Under 1 Year of Age.		At all Ages.		
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.	Number.	Rate.	
1	2	3	4	5	6	7	8	9	10	11	12	13	
1913	133931	2923	2915	21.7	2205	16.4	147	61	431	147.8	2119	15.8	
1914	134323	2814	2805	20.8	2080	15.4	141	67	326	116.2	2006	14.9	
1915	127443	2456	2452	19.2	2184	17.2	164	42	357	145.6	2062	16.1	
1916	121066	2067	2065	15.6	1875	15.4	154	58	250	121.0	1779	14.6	
1917	113315	1627	1626	12.8	1829	16.1	148	86	180	110.7	1767	15.5	
1918	111447	1551	1552	12.4	2265	20.3	178	88	194	125.0	2175	19.5	
1919	125992	1835	1838	14.0	2106	16.7	161	63	174	94.6	2008	15.9	
1920	127700	2835	2827	22.1	1891	14.8	157	52	311	110.0	1786	13.9	
1921	129400	2538	2528	19.5	1753	13.5	157	59	276	109.1	1655	12.7	
1922	129376	2207	2177	16.8	1983	15.3	190	50	215	98.7	1843	14.2	
1923	129000	2121	2094	16.2	1878	14.5	191	49	210	100.2	1736	13.4	

## APPENDIX 6.

Deaths registered during the Calendar Year 1923 classified by age and cause.

CAUSES OF DEATH.				Net Deaths at the subjoined ages of "Residents," whether occurring within or without the District.										Total Deaths whether of "Resi- dents" or "non- Residents" in Institutions in the District
				All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 years and upwards.		
1				2	3	4	5	6	7	8	9	10	11	
All causes	{ Certified	...	...	1731	208	43	38	46	73	219	528	576	552	
	{ Uncertified	...	...	5	2	...	...	...	1	...	1	1	...	
Enteric Fever	...	...	...	1	...	...	...	...	1	...	...	...	...	
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	
Measles	...	...	...	6	2	2	2	...	...	...	...	...	2	
Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	
Whooping Cough	...	...	...	7	5	1	...	1	...	...	...	...	...	
Diphtheria and Croup	...	...	...	1	...	...	...	1	...	...	...	...	1	
Influenza	...	...	...	49	1	...	...	...	3	11	19	15	1	
Erysipelas	...	...	...	2	...	...	...	...	...	...	2	...	2	
Phthisis (Pulmonary Tuberculosis)	...	...	...	93	...	1	...	6	20	35	28	3	31	
Tuberculous Meningitis	...	...	...	4	1	1	...	2	...	...	...	...	4	
Other Tuberculous Diseases	...	...	...	27	...	2	3	6	8	6	2	...	18	
Cancer, malignant disease	...	...	...	177	...	...	...	2	...	16	111	48	64	
Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	
Meningitis	...	...	...	10	2	1	...	2	2	3	...	...	7	
Organic Heart Disease	...	...	...	166	1	...	...	2	5	14	61	83	28	
Bronchitis	...	...	...	209	15	8	3	1	...	14	66	102	38	
Pneumonia (all forms)	...	...	...	189	26	16	12	3	12	36	58	26	30	
Other diseases of Respiratory organs	...	...	...	22	...	...	2	...	...	6	11	3	5	
Diarrhoea and Enteritis.	...	...	...	24	19	2	2	...	...	...	...	1	2	
Appendicitis and Typhlitis	...	...	...	9	...	...	1	3	2	2	1	...	20	
Cirrhosis of Liver	...	...	...	10	...	...	...	...	...	...	8	2	2	
Alcoholism	...	...	...	...	...	...	...	...	...	...	...	...	...	
Nephritis and Bright's Disease	...	...	...	53	...	...	...	1	...	6	24	22	8	
Puerperal Fever	...	...	...	5	...	...	...	...	1	4	...	...	5	
Other accidents and diseases of Pregnancy and Parturition	...	...	...	9	...	...	...	...	...	9	...	...	9	
Congenital Debility and Malforma- tion, includ'g Prem'ture Birth	...	...	...	100	98	1	1	...	...	...	...	...	14	
Violent Deaths, excluding Suicide	...	...	...	36	2	1	7	4	1	5	10	6	27	
Suicides	...	...	...	22	...	...	...	...	5	4	11	2	5	
Polio-myelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	
Venereal Diseases	...	...	...	8	6	...	1	...	...	...	1	...	4	
Cerebral Hæmorrhage	...	...	...	67	...	...	...	...	1	2	17	47	32	
Arterio-Sclerosis	...	...	...	53	...	...	...	...	...	...	13	40	6	
Senile Decay	...	...	...	111	...	...	...	...	...	...	6	105	43	
Locomotor Ataxy	...	...	...	...	...	...	...	...	...	...	...	...	...	
General paralysis of insane	...	...	...	4	...	...	...	...	...	2	2	...	...	
Aneurism	...	...	...	...	...	...	...	...	...	...	...	...	...	
Other Defined Diseases	...	...	...	257	31	7	4	12	13	44	76	70	142	
Diseases ill-defined or unknown	...	...	...	5	1	...	...	...	...	...	2	2	...	
Totals	...	...	...	1736	210	43	38	46	74	219	529	577	552	

## APPENDIX 7.

## Classification of Deaths according to Disease.

CAUSE OF DEATH.	1914.	1915	1916.	1917.	1918.	1919.	1920.	1921.	1922	1923.	1923 Death Rates.	
	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Black- burn	105 large Towns
Enteric Fever .....	7	6	2	1	4	1	...	...	...	1	0'00	0'01
Smallpox .....	...	...	...	...	...	...	...	...	...	...	0'00	0'00
Measles .....	20	44	14	21	39	...	18	3	32	6	0'04	0'15
Scarlet Fever .....	10	6	4	2	2	2	3	1	2	...	0'00	0'03
Whooping Cough .....	9	39	7	11	26	11	1	20	9	7	0'05	0'12
Diphtheria and Croup.....	7	8	9	8	11	3	10	6	7	1	0'007	0'09
Influenza .....	24	32	25	14	338	187	59	20	72	49	0'37	*
Erysipelas .....	3	...	2	2	1	1	...	2	1	2	0'01	*
Phthisis (Pulmonary Tuberculosis) .....	124	109	115	119	126	116	82	77	96	93	0'72	*
Tuberculous Meningitis ...	12	14	7	13	17	10	14	5	10	4	0'03	*
Other Tuberculous Diseases	20	28	22	23	20	17	15	19	16	27	0'20	*
Cancer, Malignant Disease	134	157	136	152	131	165	172	175	163	177	1'37	*
Rheumatic Fever.....	5	16	10	2	2	2	..	2	...	...	0'00	*
Meningitis .....	24	18	23	14	21	5	17	13	15	10	0'07	*
Organic Heart Disease...	256	232	257	274	214	269	215	214	221	166	1'28	*
Bronchitis .....	246	263	220	190	189	269	231	163	224	209	1'62	*
Pneumonia (all forms) ...	192	201	162	155	266	210	178	133	173	189	1'46	*
Other Diseases of res- piratory organs .....	18	15	30	26	27	16	16	19	29	22	0'17	*
Diarrhoea and Enteritis ...	60	59	29	36	27	26	45	47	26	24	0'18	*
Appendicitis and Typhlitis	12	8	7	16	7	9	12	11	8	9	0'07	*
Cirrhosis of Liver .....	10	12	7	4	6	3	3	11	5	10	0'07	*
Alcoholism .....	3	2	4	...	...	...	3	1	...	...	0'00	*
Nephritis and Bright's Disease .....	82	72	41	46	65	51	52	56	39	53	0'41	*
Puerperal Fever .....	6	3	4	1	2	5	3	6	1	5	0'03	*
Other accidents and diseases of Pregnancy and Parturition .....	12	5	4	9	9	6	13	5	14	9	0'07	*
Congenital Debility and Malformation, including Premature Birth .....	137	112	110	70	73	84	130	104	98	100	0'77	*
Violent Deaths, excluding Suicide .....	45	33	47	60	52	40	48	46	43	36	0'27	*
Suicide.....	27	13	25	12	10	8	12	17	20	22	0'17	*
Other Defined Diseases...	451	502	119	451	442	428	407	470	511	500	3'88	*
Diseases ill-defined or un- known .....	50	53	34	35	48	64	27	9	8	5	0'03	*
Total .....	2006	2062	1779	1767	2175	2008	1786	1655	1843	1736	13'45	11'60

\* Information not yet available.



# APPENDIX 8.

## Vital Statistics during 1923.

WARDS.	Popula- tion.	Births	Deaths	Birth- Rate.	Death- Rate.	Deaths under one year per 1000 Births.	Death- rate from six Zymotic Diseases, excluding Diarrhoea	Death- rate from Diarrhoea	Death- rate from Bronchitis and Pneu- monia.	Death-rate from Pulmonary Tuberculosis.	Death-rate from Non-Pulmonary Tuberculosis.
ST. STEPHEN'S...	10449	178	135	17.0	12.9	56	0.0	0.1	2.9	0.3	0.1
TRINITY .....	9339	165	155	17.6	16.5	163	0.3	0.5	4.2	0.7	0.1
ST. MICHAEL'S..	9030	143	132	15.8	14.6	105	0.4	0.0	3.3	0.5	0.6
ST. JOHN'S .....	7611	107	82	14.0	10.7	75	0.0	0.1	2.6	0.6	0.2
ST. SILAS' .....	9210	81	108	8.8	11.7	50	0.0	0.0	1.3	0.7	0.0
ST. PAUL'S .....	9765	191	144	19.5	14.7	130	0.0	0.2	3.7	1.0	0.5
ST. PETER'S.....	6746	120	89	17.8	13.1	91	0.1	0.1	3.5	1.0	0.1
ST. MARY'S .....	6230	140	114	22.4	18.3	128	0.6	0.3	4.4	1.2	0.4
ST. MATTHEW'S	9713	154	113	15.8	11.6	90	0.0	0.3	2.8	0.5	0.1
ST. THOMAS' ...	12496	161	148	12.8	11.8	130	0.08	0.2	2.9	0.3	0.1
PARK .....	9468	145	124	15.3	13.1	110	0.0	0.0	2.1	0.7	0.2
ST. LUKE'S .....	8178	135	106	16.5	12.9	74	1.1	0.0	2.9	0.7	0.3
ST. MARK'S .....	10125	152	114	15.0	11.2	85	0.0	0.2	3.4	0.4	0.1
ST. ANDREW'S...	10640	222	172	20.8	16.1	81	0.0	0.1	3.1	1.2	0.09
BOROUGH .....	129000	2094	1736	16.2	13.4	100	0.1	0.1	3.0	0.7	0.2

# APPENDIX 9.

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Name of Town.	Population 1921 Census.	Proportion of Textile Workers.		Death-Rates from all causes at all ages.				Average death- rates 1920-23.	Expectation of life at 15 years of age, based on deaths in 1911-12.	
		Males per 1000 aged 12 and over	Females per 1000 Occ'p'd females.	1923	1922	1921	1920		Males.	Females.
Blackburn ...	126643	253	748	13'2	14'2	12'8	13'4	13'4	46'32 years	48'40 years
Bolton ...	178683	208	590	12'7	13'7	12'9	13'6	13'2	45'05 "	48'47 "
Burnley ...	103157	305	776	13'0	15'5	13'7	13'7	13'9	46'70 "	47'63 "
Bury ...	56403	174	592	15'2	15'0	13'3	13'9	14'3	Not Published.	
Oldham ...	144983	250	701	15'8	15'8	14'6	14'7	15'2	44'33 years	46'61 years
Preston ...	117406	156	641	13'6	13'7	13'3	13'4	13'5	44'63 "	47'91 "
Rochdale ...	90826	255	667	13'6	15'8	13'3	13'0	13'9	Not Published.	
Accrington ...	43595	130	707	11'9	13'4	13'1	13'3	12'9		
Ashton ...	43335	176	582	13'6	13'6	15'0	14'2	14'1		
B'cup ...	21263	259	623	12'2	15'0	13'9	14'1	13'8		
Chorley ...	30581	204	718	11'8	13'0	12'3	12'2	12'3		
Colne ...	24752	425	793	11'6	14'0	12'3	11'7	12'4		
Darwen ...	37906	299	821	13'2	14'5	11'6	13'0	13'0		
Gt. Harwood ...	13605	455	869	13'9	11'5	9'8	11'1	11'6		
Haslingden ...	17486	402	824	15'9	13'9	12'7	12'5	12'7		
Middleton ...	28290	349	681	11'4	13'1	13'4	12'3	12'5		
Mossley ...	12703	453	795	14'4	14'6	13'1	13'7	13'9	Not Published.	
Nelson ...	39841	553	816	10'6	12'8	10'4	9'5	10'8		
Oswaldtwistle ...	15125	277	832	13'0	13'1	10'8	12'5	12'3		
Padiham ...	12471	390	848	11'7	14'9	12'5	12'4	12'9		
Radcliffe ...	24759	259	665	12'1	14'3	11'9	13'3	12'9		
Ramsbottom ...	15381	314	765	13'0	14'6	11'1	12'1	12'7		
Rawtenstall ...	28376	283	576	12'6	15'0	12'6	13'3	13'4		
Royton ...	17194	472	798	14'3	13'4	13'6	12'9	13'5		
Walton-le-Dale ...	12156	322	812	11'4	12'7	11'1	12'9	12'0		

# APPENDIX 10.

## Males Aged 25-65 Years.

### Comparative Mortality Figures 1900-1902 and 1910-1912, and Percentage Reduction, England and Wales.

Occupational Group.	All Causes	Phthisis	Cancer	Gout	Diabetes	Alcoholism	Occupational Lead Poisoning	Diseases of the Nervous System	Valv. Dis. Heart	Aneurism	Other Diseases of Circ. System	Bronchitis	Pneumonia	Other Diseases of Resp. System	Hernia	Diseases of Liver	Other Diseases of Digestive System	Bright's Disease	Other Diseases of Urinary System	Suicide	Accident	Other Causes
ALL OCCUPIED AND RETIRED MALES.								*	*		*	*	*	*				*	*	*		*
Comp. Mort. 1900-2	1004	187	68	2	10	16	1	103	36	7	103	58	92	27	3	27	27	35	17	19	58	108
" " 1910-2	790	141	78	1	10	7	1	85	42	7	77	37	67	16	2	16	28	30	17	19	47	62
Mort. in 1910-2 as % of Mort. in 1900-2.	79	75	115	50	100	44	100	83	117	100	75	64	73	59	67	59	104	86	100	100	81	57
MALES ENGAGED IN COTTON MANUFACTUR.																						
Comp. Mort. 1900-2	1114	197	72	1	11	12	...	128	36	2	132	92	109	24	5	17	32	38	23	20	34	129
" " 1910-2	811	120	71	...	10	5	...	95	44	3	101	55	70	17	1	13	27	34	21	22	29	73
Mort. in 1910-2 as % of Mort in 1900-2.	73	61	99	...	91	42	...	74	122	150	77	60	64	71	20	76	84	89	91	110	85	57

\* Cotton operatives have for these diseases a higher death-rate in 1910-12 than had all occupied males.

# APPENDIX 11.

## Deaths in Standard Population.

Males—England and Wales—Years 1910-12.

Ages	All Occupied and Retired Males.				All Males engaged in Cotton Manufacture.				Cotton Strippers and Grinders.				Cotton Blowroom Hands.			
	Total				Total				Total				Total			
	25-65	25-35	35-45	45-55	55-65	25-65	25-35	35-45	45-55	55-65	25-65	25-35	35-45	45-55	55-65	25-65
Phthisis .....	142	44.2	42.5	33.9	21.1	120	34.5	31.9	30.4	23.3	155	32.3	17.4	48.0	57.5	136
Other Tubercular Diseases .....	10	3.8	2.7	2.3	1.5	13	3.6	2.8	2.2	3.9	25	...	...	...	24.7	18
Cancer .....	78	2.9	8.8	25.0	41.6	71	2.7	7.9	21.8	38.4	59	...	...	18.0	41.1	85
Valvular Disease of Heart.....	39	4.0	6.9	11.0	17.0	38	4.5	3.4	11.0	19.0	34	5.4	...	12.0	16.4	47
Angina Pectoris and Arterio-Sclerosis ..	9	.1	.5	2.4	6.3	10	...	.3	2.7	6.6	8	...	...	...	8.2	7
Aneurism .....	7	.5	1.9	2.5	2.0	3	...	.2	1.3	1.6	8	...	...	...	8.2	4
Other Diseases of the Circulatory System	63	5.1	9.6	17.0	31.4	83	6.3	10.5	20.7	45.1	124	...	11.6	30.0	82.2	94
Bronchitis .....	38	1.4	3.7	9.8	23.5	57	.9	4.7	13.0	38.0	150	...	23.1	36.0	90.4	126
Pneumonia .....	67	12.0	16.0	18.4	20.1	70	11.2	14.1	19.3	25.8	113	16.1	17.4	30.0	49.8	87
Other Diseases of Respiratory System...	15	1.5	2.8	4.4	6.4	15	1.1	2.2	4.5	7.5	20	...	...	12.0	8.2	47
Acute Nephritis .....	6	1.1	1.3	1.5	1.6	7	1.1	1.0	2.5	2.3	6	...	...	6.0	...	10
Bright's Disease .....	33	2.9	5.5	10.5	14.5	41	3.3	6.4	13.0	18.1	31	5.4	17.4	...	...	41
Suicide .....	19	3.8	4.8	5.2	4.8	22	2.2	4.8	6.8	7.8	6	...	5.8	...	...	67
Accident .....	48	12.8	12.8	11.8	10.1	29	6.1	5.3	7.0	10.3	55	10.8	11.6	24.0	8.2	37
All Causes.....	790	124.0	162.0	216.0	288.0	811	101.0	133.0	223.0	354.0	988	86.0	133.0	276.0	493.0	1090

NOTE.—The figures in black give the diseases and age groups in respect of which cotton operatives have an excessive mortality.

# APPENDIX 12.

Deaths of Blackburn Cotton Operatives aged 15 years and over and death-rates per 1000 per annum during the years 1920, 1921, and 1922, compared with the death-rate of all inhabitants of the Borough at the same age period.

Population { Male ..... Female ..... Total .....	Weavers			Spinners and Piecers			Winders & Warpers.			Cardroom Hands.			Whole Borough. 15 years and over	
	6289 17788 24077			849 1101 1950			714 4187 4901			433 1048 1481			42575 53690 96265	
	M.	F.	Retired M. F.	M.	F.	Retired M. F.	M.	F.	Retired M. F.	M.	F.	Retired M. F.	M.	F.
Diseases														
Acute Infectious Diseases including Influenza .....	7	10	1	1	2	0	1	2	0	0	0	0	63	81
Death-Rates .....	0.4	0.2		0.4	0.3		0.5	0.1		0.0	0.3		0.5	0.5
Bronchitis, Pneumonia, and other non-tuberculous lung diseases...	31	22	12	5	0	8	5	23	3	3	3	5	451	437
Death-Rates .....	1.6	0.4		2.0	0.0		2.3	1.8		2.3	0.9		3.5	2.7
Kidney and Blood Vessel Diseases	14	10	17	3	2	3	5	8	2	2	1	0	245	249
Death-Rates .....	0.8	0.2		1.2	0.6		2.3	0.6		1.5	0.3		1.9	1.5
Organic Heart Diseases.....	12	27	10	5	3	12	8	17	4	2	0	0	278	352
Death-Rates .....	0.6	0.5		2.0	0.9		3.7	1.3		1.5	0.0		2.2	2.2
Phthisis .....	17	20	0	3	6	0	2	12	0	2	5	0	139	98
Death-Rates .....	0.9	0.4		1.2	1.8		0.9	0.9		1.5	1.6		1.1	0.6
Other Tubercular Diseases.....	2	7	0	1	1	0	1	0	0	0	0	0	23	18
Death-Rates .....	0.1	0.1		0.4	0.3		0.5	0.0		0.0	0.0		0.2	0.1
Cancer .....	11	26	10	9	2	7	5	7	0	3	2	1	212	298
Death-Rates.....	0.6	0.5		3.7	0.6		2.3	0.6		2.3	0.6		1.7	1.8
Other causes .....	36	54	32	9	4	10	11	15	2	4	3	1	562	575
Death-Rates.....	1.9	1.0		3.7	1.2		5.1	1.2		3.1	0.9		4.4	3.6
Total deaths from all causes.....	130	176	82	36	19	40	38	84	11	16	15	8	1973	2108
Death-rates .....	6.9	3.3		14.8	5.7		17.7	6.7		12.3	4.8		15.4	13.1
Death-rates in both sexes .....	4.2			9.6			8.3			7.0			14.1	

The top figures give the numbers of deaths in the three years and the bottom ones the death-rates per 1,000 per annum. Death-rates based on populations of under 1000 or on deaths under 20 should be accepted with considerable reserve. The larger the population at risk and the larger the numbers of total deaths the more accurate are the figures.



## APPENDIX 13.

SUMMARY OF WORK DONE BY THE INSPECTOR OF  
NUISANCES AND HIS ASSISTANTS.

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 NUISANCES.

No. of Complaints by Inhabitants .....	271
No. of Complaints referred from other departments .....	513
No. of Special Inspections for suspected nuisances .....	150
Number of Nuisances discovered as result of:—	
(1) Complaints by inhabitants .....	682
(2) Visiting cases of infectious diseases .....	135
(3) Special Inspections .....	190
(4) Complaints from other departments .....	550
(5) Routine Inspection visits .....	1489
(6) Notifications from H.M. Inspector of Factories .....	41
(7) Housing and Town-Planning Inspections .....	648
(8) Increase of Rent, &c., Act .....	40
(9) Visits to Fried Fish Shops .....	84
	<hr/>
	3859

VISITS *re* SANITATION AND FOOD SUPPLY.

Common Lodging Houses .....	459
Houses Let in Lodgings .....	1985
Dirty Houses .....	45
Common Yards, Back Roads, and Passages .....	8213
Infected Houses .....	3535
Work in Progress .....	7590
Housing and Town Planning Acts .....	647
Increase of Rent, etc. (Restriction) Act .....	8
Horse-Manure Midden-steads .....	2348

Smoke Observations .....	53
Chip Potato Shops .....	931
Fishmongers and Greengrocers .....	524
Milkshops .....	1049
Ashes Receptacles .....	779
Canal Boats .....	109
Factories .....	209
Workshops .....	1641
Workplaces .....	219
Offensive Trades .....	252
Food Preparing and Storing Places .....	97
Outworkers' Premises .....	7
Theatres and Cinemas .....	160
Suspected Cases of Infectious Diseases .....	154
Enquiries <i>re</i> Milk Supply .....	31
Serving of Pail Closet Conversion Notices .....	16
Dwelling-houses— <i>re</i> Nuisances .....	1193
Fried Fish Shops—Special Inspections .....	190
Housing Survey .....	256
Testing Drains :—	
By Smoke .....	434
,, Water .....	172
,, Coloured Water .....	140
,, Breaking Down .....	82
School Drains Tested .....	12
Samples of Water procured .....	11
Dairies and Cowsheds (special inspections) .....	80
,, (subsequent visits) .....	340
Caravans .....	31
Ice-cream Shops .....	171
Samples of Milk purchased (for sediment) .....	173
Samples of Milk purchased for Bacteriological Examination ...	100
Freezing of Closets .....	405
Labelling of Condensed Milk Tins .....	71
Miscellaneous .....	339

## APPENDIX 14

## HOUSING.

## 1. NUMBER OF NEW HOUSES ERECTED DURING THE YEAR :—

(a) Total ..... 16

(b) With State Assistance under the Housing Acts 1919 or 1923 :

(1.) By the Local Authority ..... Nil.

(11.) By Other Bodies or Persons ..... Nil.

## 2. UNFIT DWELLING-HOUSES :—

## INSPECTION.

(1) Total Number of Dwelling-Houses inspected for housing defects (under Public Health or Housing Acts) ..... 1744

(2) Number of Dwelling-Houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910 ..... 305

(3) Number of Dwelling-Houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation 3

(4) Number of Dwelling-Houses (exclusive of those referred to under the preceding sub-headings) found not to be in all respects reasonably fit for human habitation ..... 1603

## 3. REMEDY OF DEFECTS WITHOUT SERVICE OF FORMAL NOTICES :—

Number of Defective Dwelling-Houses rendered fit in consequence of informal action by the Local Authority or their Officers ..... 1165

## 4. ACTION UNDER STATUTORY POWERS :—

A.—Proceedings under Section 28 of the Housing, Town Planning, etc., Act, 1919.

(1) Number of Dwelling-Houses in respect of which notices were served requiring repairs ..... Nil.

## (2) Number of Dwelling-Houses which were rendered fit—

(a) By Owners ..... Nil.

(b) By Local Authority in default of owners ..... Nil.

## (3) Number of Dwelling-Houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close ..... Nil.

## B.—Proceedings under Public Health Acts :—

(1) Number of Dwelling-Houses in respect of which notices were served requiring defects to be remedied ..... 280

## (2) Number of Dwelling-Houses in which defects were remedied—

(a) By Owners ..... 210

(b) By Local Authority in default of owners ..... Nil.

## C.—Proceedings under Sections 17 and 18 of the Housing, Town-Planning, etc., Act, 1909 :—

(1) Number of Representations made with a view to the making of Closing Orders ..... Nil.

(2) Number of Dwelling-Houses in respect of which Closing Orders were made ..... Nil.

(3) Number of Dwelling-Houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit ..... Nil.

(4) Number of Dwelling-Houses in respect of which Demolition Orders were made ..... Nil.

(5) Number of Dwelling-Houses demolished in pursuance of Demolition Orders ..... Nil.

Under the Blackburn Improvement Act, 1882, Closing Orders were issued for 3 inhabited and 2 uninhabited houses ; Demolition Orders were made for 19 houses. They had been derelict for some years.

## APPENDIX 15.

## Work under Public Health, etc., Acts.

	Notices Served.					
	Verbal Notices	Prelim- inary Notices	Statutory Notices	Letters from M.O.H.	Prose- cutions	Nuis- ances abated or work done
(a) Notices served on Occupiers of dwelling houses :—						
Overcrowding in Rooms.....	1	1	...	...	...	2
Cleansing dirty Floors.....	21	3	...	...	...	21
"    "    Woodwork .....	2	...	...	...	...	1
"    "    Yards.....	72	8	3	...	...	81
"    "    Bedding .....	8	...	...	...	...	7
"    "    W.C. Basins.....	42	10	1	...	...	50
"    "    W.C. Seats .....	17	5	...	...	...	18
"    "    Windows .....	3	...	...	...	...	...
"    "    Gully Traps .....	68	9	...	...	...	71
"    "    Cellar Areas .....	...	1	1	...	...	...
Removing Fowls & other Animals..	36	11	7	1	...	38
Removing Rubbish from Premises....	27	35	...	...	...	51
Obstructive Buildings.....	3	...	...	...	...	3
Removing Manure .....	42	11	...	...	...	50
(b) Factories and Workshops :—						
Want of Cleanliness.....	11	7	...	...	...	23
Want of Ventilation.....	2	...	...	...	...	1
Other Nuisances .....	11	7	1	...	...	12
Sanitary { insufficient.....	...	...	...	...	...	...
Accommodation { unsuitable or defective	1	1	...	...	...	5
not separate for sexes	...	...	...	...	...	...
Offences under the Factory and Workshops Acts :—						
Breach of Special Sanitary require- ments for Bakehouses (S.S.97-100)	23	9	...	...	...	38
Other Offences.....	1	...	...	...	...	..
Total Number of Defects.. .....	391	118	13	1	...	472
Total Number of Premises concerned...	357	101	12	1	...	432
(a) Notices Served on Owners of Dwelling Houses :—						
Defective Drains .....	41	110	7	1	...	152
Choked .. .....	50	162	17	2	...	224
Defective Water Closets .....	11	44	11	7	...	55
"    Pail .....	...	3	...	...	...	4
"    Slop Water Closets .....	...	27	3	2	...	9
"    Gullies.....	14	90	1	...	...	93
"    Privy Middens .....	...	1	...	...	...	...
"    Sink Waste Pipes .....	3	47	7	2	...	46
"    W.C. Cisterns and Flushing Fittings .....	22	133	28	6	...	137
"    Urinals.....	...	1	...	...	...	...
"    Gutters and Down Spouts...	47	303	105	32	...	338
"    Soil Pipes .....	1	2	...	...	...	4
"    Dishstones .....	13	60	...	...	...	100
Improper drainage of houses .....	2	...	1	...	...	2
Sink pipes connected with drains .....	...	...	...	...	...	...
Yards unflagged .....	...	3	1	...	...	...
Cellars unflagged .....	...	1	...	...	...	...
Yards badly paved or flagged.....	23	57	12	1	...	52



## APPENDIX 15. (cont.)

	Notices Served.			Letters from M.O.H.	Prose- cutions	Nuisances abated or work done
	Verbal Notices	Prelim- inary Notices	Statutory Notices			
Damp and defective House Walls, Roofs, etc. ....	38	420	107	42	...	320
Insufficient ventilation of Rooms ....	6	25	...	...	...	13
Insufficient Water supply.....	...	13	...	...	...	22
Defective manure middensteads .....	2	3	1	...	...	6
Dwelling-houses to be whitewashed ..	5	113	...	...	...	60
Defective Chimneys to be raised.....	...	16	4	1	...	6
Ashtubs, Ashpits etc. to be repaired...	10	535	118	26	...	258
Metal Ashbins to be provided.....	21	192	41	18	...	513
Window Sash Frames, Cords, Internal Walls, Ceilings, Floors, Stairs, Fireplaces, Doors, Cupboards to be repaired .....	34	716	120	55	...	546
Slop-water Closets to be converted to W.C's .....	5	...	...	...	...	30
Privies to be converted to W.C's .....	...	...	43	...	...	43
Gas pipes repaired .....	...	24	1	2	...	27
Water Pipes Repaired .....	...	13	...	...	...	13
Yard division walls ..	...	29	7	6	...	10
Illegal Occupation of Closed House...	1	1	...	1	...	1
Flooding of House .....	1	...	...	...	...	1
Noxious Fumes from Bakehouse.....	...	...	...	...	...	1
(b) Factories and Workshops :—						
Want of Cleanliness .....	...	1	...	...	...	1
Other Nuisances .....	2	3	...	...	...	4
Sanitary { insufficient .....	...	10	...	...	...	7
Accommod- { unsuitable .....	...	27	...	...	...	13
ation { or defective .....	...	...	...	...	...	...
{ not separate for sexes .....	...	...	...	...	...	...
Illegal occupation of Underground Bakehouses (S.101) .....	...	...	...	...	...	...
Breach of special sanitary require- ments for Bakehouses (S.S. 97-100) ..	...	...	...	...	...	...
Other Offences.....	...	4	...	...	...	...
Common Lodging Houses .....	1	2	...	...	...	1
Houses let in Lodgings .....	59	9	...	...	...	68
Dairies, Cowsheds and Milk shops, Contraventions.....	...	...	...	1	...	...
Fried Fish Shops .....	...	4	...	...	...	4
Canal Boats :—						
Not numbered .....	...	...	...	...	...	...
No Certificates .....	2	...	...	...	...	...
Leaky Cabin .....	1	...	...	...	...	1
No cask for water .....	...	...	...	...	...	...
Dirty Conditions .....	...	...	...	...	...	...
Voluntary Conversions .....	...	...	...	...	...	9
Offensive Trades.....	2	2	...	2	...	4
Total number of defects .....	417	3206	635	207	...	3202
Total number of premises concerned...	335	2042	440	131	...	2212

## Referred to other Departments.

Street Gullies, Ashpits, etc., reported to Cleansing Department...	167
Waste Water to Water Department .....	27
Dangerous Walls, etc., to Borough Engineer .....	86
Escape of Coal Gas to Gas Department .....	13
Insufficient Water Supply .....	78

# APPENDIX 16.

## ATMOSPHERIC POLLUTION IN BLACKBURN, 1923.

Gauge 1. Balcony of Technical College. 400 feet above sea level.  
 " 2. Corporation Hospital. 600 " " "

1923	Month	No. of gauge	Rainfall in m.m.	Metric Tons per Square Kilometre.							Classification	Included in Soluble Matter		
				Insoluble Matter				Soluble Matter				Sulphate	Chloride	Ammonia
				Tar	Classifi- cation	Carbon- aceous other than Tar	Ash	Total In- soluble matter	Loss on ignition	Ash				
Jan.	1	No Record	94	0.205	C	3.681	5.230	9.116	1.355	2.972	0.760	0.3326	0.0415	
Feb.	1	153	153	0.222	C	3.011	4.065	7.298	3.399	5.802	0.840	0.5406	0.1536	
March	2	136	136	...	...	...	...	2.107	...	...	...	...	...	
	1	34	34	0.258	D	2.345	4.094	6.697	1.643	3.837	...	0.5975	0.0543	
April	2	25	25	...	...	...	...	2.055	...	...	...	...	...	
	1	60	60	0.342	D	4.310	6.360	11.010	3.814	5.258	0.434	0.2330	0.0240	
May	2	71	71	...	...	...	...	3.209	...	...	...	...	...	
	1	106	106	0.246	C	4.402	12.110	16.758	2.020	6.861	1.472	0.4079	0.09729	
June	2	109	109	...	...	...	...	1.907	...	...	...	...	...	
	1	33	33	0.280	D	3.690	7.520	11.490	2.490	5.320	...	0.4130	0.0580	
July	2	36	36	...	...	...	...	1.968	...	...	...	...	...	
	1	139	139	0.420	D	2.720	9.750	12.890	2.630	11.130	1.868	0.3900	0.0554	
Aug.	2	124	124	...	...	...	...	2.117	...	...	...	...	...	
	1	167	167	0.088	B	3.338	14.220	17.646	4.512	12.310	1.991	1.0590	0.0668	
Sept.	2	73	73	...	...	...	...	1.945	...	...	...	...	...	
	1	142	142	0.244	C	4.193	6.842	11.279	3.036	12.600	1.272	0.9990	0.0850	
Oct.	2	164	164	...	...	...	...	5.380	...	...	...	...	...	
	1	129	129	0.163	C	3.372	5.903	9.438	4.117	9.486	1.434	1.1580	0.1114	
Nov.	2	224	224	...	...	...	...	3.260	...	...	...	...	...	
	1	164	164	0.149	B	2.582	2.867	5.598	2.106	5.572	1.427	0.9649	0.1237	
Dec.	2	138	138	...	...	...	...	1.522	...	...	...	...	...	
	1	162	162	0.203	C	2.500	5.110	7.813	2.786	4.688	1.529	1.0480	0.0747	
	2	156	156	...	...	...	...	2.053	...	...	...	...	...	

## APPENDIX 17.

## PUBLIC ABATTOIR, 1923.

Animals slaughtered at the Abattoir :—

		Beasts.	Sheep.	Calves.	Pigs.	Total.
1920	.....	8822	39345	2420	4112	54699
1921	.....	8398	65717	2318	5076	81509
1922	.....	10565	85049	2599	4409	102622
1923	.....	10644	77050	3420	4522	95636

Number of Carcases and amount of Dead Meat brought  
to the Abattoir :—*Carcases :*

Beef.	Mutton.	Pigs.
314½	6846	752

			Cases of				Bags of
Hind Qrs.	Fore Qrs.	Tails.	Livers.	Tongues.	Kidneys.	Offal.	
578	61	27	12	—	206	19	
Boxes	Pork.	Lgths. of Pk.	Butt'ks.	Crops.	Legs.	Shoulders.	
529		163	716	1	—	—	

Fish, Rabbits, etc., Examined. Rejected and Destroyed.

Fish.								Rabbits.		Tins To'gue	Tins Meat	Tins Milk	Fowl	Geese	Pieces of Venison	Butter
Shri'p Pots	Sal- mon	St'ne	Boxes	Bar- rels	Bags	lbs.	Tins	Rab- bits	C'ses							
30	6	0	677¾	0	13½	356	0	1094	...	2	64	16	16	4	3	...

## NUMBER OF VISITS TO INSPECT FOOD.

Fish Shops .....	849
Provision Shops .....	985
Butchers' Shops .....	1964
Private Slaughterhouses .....	183
Meat Market .....	204
Fish Market .....	289
Railway Station .....	279
	4753

# TUBERCULOSIS IN THE ANIMALS SLAUGHTERED.

Kind of Animal.	Number Slaughtered.	Of which were Tuberculous	Totally Rejected.	Extent of the Tubercular process in partially rejected carcasses.											
				Heads.	THORAX.				ABDOMEN.						
					Lungs	Heart and Pericardium	Serous Membranes	Livers	Stomachs	Spleens	Kidneys	Intestines	Uteri	Serous Membranes	Bones
Cows .....	1616	125	32	54	94	7	62	16	21	..	..	..	..	21	..
Heifers .....	1249	18	9	6	9	..	4	..	1	..	..	..	..	1	7
Bulls .....	1569	13	2	4	11	..	7	2	2	..	..	..	..	3	..
Bullocks .....	6210	20	4	3	15	..	10	..	2	..	..	..	..	2	..
Calves .....	3420	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sheep .....	77050	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pigs .....	4522	130	7	121	122	..	..	1	..	..	..	..	..	..	..
Totals.....	95636	306	54	188	251	7	83	19	26	..	..	..	..	27	7
															4550

Organs and parts of Carcasses examined, rejected and destroyed, for Disease other than Tuberculosis.

Disease or Condition.	Tongues	Heads	Lungs	Hearts	Livers	Stomachs	Udders	Intestines	Kidneys	Tails	Lbs. of Meat
Fluke .....	...	...	...	...	910	..	...	...	...	...	...
Cirrhosis .....	...	...	...	...	220	...	...	...	...	...	...
Angioma .....	...	...	...	...	48	...	...	...	...	...	...
Cysts .....	...	...	32	...	22	...	...	...	1	...	...
Actinomycosis .....	...	6	...	...	...	...	...	...	...	...	...
Abscesses .....	1	3	...	...	10	...	...	...	...	...	140
Unsound .....	19	296	259	284	406	8	1	2	...	7	5853
Mastitis .....	...	...	...	...	...	...	63	...	...	...	...
Parasitic .....	...	...	...	...	...	...	...	5	...	...	...
Bruised .....	...	...	...	...	...	...	...	...	...	...	1180
Congested .....	...	...	3	...	...	...	...	...	...	...	...
Bone Taint .....	...	...	...	...	...	...	...	...	...	...	657
Total .....	20	305	294	284	1616	8	64	7	1	7	7830



## CARCASSES TOTALLY REJECTED FOR DISEASES OTHER THAN TUBERCULOSIS.

BEEF.		MUTTON.		VEAL.		PORK.	
Disease.	No.	Disease.	No.	Disease.	No.	Disease.	No.
Pneumonia ... ..	1	Asphyxia .....	38	Congested and ill-bled	7	Asphyxia .....	2
Oedematous .....	2	Oedematous .....	45	Jaundice.....	10	Congested and ill-bled	3
Extensively Bruised ...	2	Congested and ill-bled	46	Joint ill .....	44	Unsound .....	3
Metritis .....	1	Emaciation .....	5	Immature .....	23	Oedematous. ....	1
Staggers .....	3	Parasitic Disease....	2	Oedematous .....	12	Nephritis.....	2
Congested and ill-bled	4	Unsound .....	43½	Unsound .....	6	Septicaemia.....	3
Anthrax .....	1	Arthritis .....	2	Nephritis .....	3	Erysipelas .....	1
Septicaemia .....	2	Parturition .....	6	Scour.....	2	Parturition .....	1
Nephritis .....	1	Nephritis .....	11	Peritonitis .....	1	Rachitis... ..	1
Unsound .....	5						
Parturition .....	2						
	24		198½		108		17

## CONDEMNED CARCASSES, &amp;c., SENT FOR UTILISATION AS MANURE.

	Tons	Cwt.	Qrs.
Meat.....	20	19	0
Offal.....	23	7	1

## APPENDIX 18.

REPORT OF THE VETERINARY INSPECTOR, Mr. E. J. BURNDRED,  
on work done under the Diseases of Animals Acts and Orders during the  
year 1923.

*Foot and Mouth Disease.* During 1923 the Ministry of Agriculture had to deal with the most serious invasion of this disease which we have had in this country since the slaughter policy for eradication was first adopted.

There were 1,756 outbreaks, necessitating the slaughter of 60,478 animals which were diseased or had been exposed to infection. No outbreak occurred in Blackburn, but the tracing and examination of animals, together with licensing and supervision of the market, etc., caused a serious amount of extra work.

The Chief Constable arranged that Inspector Baird, together with certain Sergeants and Constables, should carry out the licensing, and it is pleasing to place on record an appreciation of the work that they have done in helping to keep Blackburn free from the disease.

*Anthrax.* No cases of anthrax occurred in the Borough during the year, but three cases were discovered post-mortem in the carcasses of cows brought from outside the Borough to knackeryards in the borough, and one case in the carcase of a bull sent to the Abattoir. Two of the cases were reported as suspicious by the Knackerman, and microscopical examination carried out by me confirmed the suspicion. All the carcasses were cremated at the Audley destructor. The vehicles, the premises, and the persons who had handled the carcasses were disinfected. One of the slaughtermen admitted having eaten a piece of the raw flesh of the animal dressed at the Public Abattoir. He was given an injection of Sclavo's Serum, and appeared none the worse for his foolishness. The fourth case was discovered in a hide on a knacker's premises when I was following up an investigation relating to a case of Anthrax which occurred on a farm outside Blackburn, the occupier of which had sent a carcase to the knacker-yard at Blackburn a week before Anthrax had been discovered on his farm. The hide in question was one of 94 laid down in salt, and these were classified by colour of the hide; the colour of the suspected cow was known and a microscopical examination was made of all the hides of this colour. One hide was found to contain Anthrax Bacilli, and this hide was burnt at the destructor. All the remaining hides were treated by what is

known as the "Schattenfroh" method, which consists in treating the hides with a solution of 5% concentrated Hydrochloric Acid, to which 10% of Sodium Chloride has been added, and which is allowed to remain in contact with the hides for 48 hours.

The hides were stored in a bay of the knacker yard, the walls and floor of which were finished with cement.

By building a wall at the open end of the bay we provided a water-tight compartment, and so were able to treat the hides *in situ* without the inconvenience and danger of handling.

*Parasitic Mange.* In Great Britain there were 786 outbreaks involving 1,115 animals. One case was reported in Blackburn. The animal was isolated until cured.

*Rabies.* No case occurred in Great Britain.

*Glanders.* This disease will soon be a disease of the past as far as Great Britain is concerned. There were only 8 outbreaks involving 13 animals, none of which occurred in Blackburn.

*Sheep Scab.* There were 646 outbreaks in Great Britain, but none occurred in Blackburn.

*Swine Fever.* 1963 outbreaks were notified in Great Britain. No case was discovered in Blackburn.

*Cattle Market.* The new Auction Mart at the Cattle Market has supplied a long-felt want, and until the serious outbreak of Foot and Mouth Disease interfered with trade it was rapidly becoming an important centre for the sale of animals for slaughter, store cattle, and dairy cattle.

Sales were held weekly on Mondays for fat stock and Wednesdays for dairy stock, while fortnightly sales were held for store animals. At the end of August sales were entirely prohibited by order of the Ministry of Agriculture, but the order was modified later, allowing Fat Stock Sales, which commenced on September 10th. The restrictions were entirely withdrawn on September 20th, but in the middle of October were re-imposed.

The Market remained closed for the sale of dairy and store stock during the remainder of the year.

This has caused a serious diminution in the number of animals exhibited, but, as will be seen from the subjoined figures, the number of cattle has increased from 4650 in 1922 to 7716 in 1923.

The approximate number of animals exhibited for sale were :—

		Cattle.		Sheep.		Calves.		Pigs.		Horses.
1923	.....	7716	...	10026	...	3040	...	721	...	35

The figures for the preceding 10 years are :—

		Cattle.		Sheep.		Calves.		Pigs.		Horses.
1922	.....	4650	...	11289	...	2681	...	362	...	554
1921	.....	4681	...	1913	...	2812	...	835	...	416
1920	.....	9341	...	942	...	2258	...	530	...	365
1919	.....	8345	...	17223	...	2188	...	163	...	269
1918	.....	6424	...	23043	...	1832	...	111	...	126
1917	.....	5599	...	503	...	2530	...	284	...	40
1916	.....	4045	...	126	...	—	...	98	...	2
1915	.....	5939	...	126	...	—	...	98	...	2
1914	.....	6314	...	420	...	—	...	36	...	29
1913	.....	6174	...	358	...	—	...	42	...	97

## APPENDIX 19.

## SALE OF FOOD AND DRUGS ACT.

	Samples Taken.		Samples Genuine.		Samples Adulterated.	
	Formal.	Informal.	Formal.	Informal.	Formal.	Informal.
Milk .....	168	95	155	83	13	12
Cheese .....	—	4	—	4	—	—
Butter .....	—	13	—	13	—	—
Margarine .....	—	15	—	15	—	—
Cocoa .....	—	9	—	9	—	—
Skimmed Milk .	4	—	4	—	—	—
Jam .....	—	10	—	10	—	—
Coffee .....	—	10	—	10	—	—
Custard Powder	—	4	—	4	—	—
Rice .....	—	4	—	4	—	—
Baking Powder	—	9	—	9	—	—
Oil of Almonds	—	1	—	1	—	—
Lard .....	—	9	—	9	—	—
Sugar .....	—	4	—	4	—	—
Malt Vinegar ...	—	3	—	3	—	—
Egg Powder ....	—	3	—	3	—	—
Condensed Milk	—	5	—	5	—	—
Camphorated Oil	—	1	—	1	—	—
Sponge Cake ...	—	14	—	6	—	8
Medicine .....	2	6	2	5	—	1
Preserved Cream	—	4	—	4	—	—
Ground Rice ...	—	1	—	1	—	—
Sago .....	—	1	—	1	—	—
Preservative ...	—	1	—	1	—	—
Bi-Carbonate of Soda .....	—	1	—	1	—	—
Cream .....	—	2	—	2	—	—
Tea .....	—	2	—	2	—	—
Mustard .....	—	1	—	1	—	—
Self - Raising Flour .....	—	1	—	1	—	—
Condensed Ma- chine Skimmed Milk .....	—	1	—	—	—	1
Total .....	174	234	161	212	13	22



### SALE OF FOOD AND DRUGS ACTS.—Action taken with regard to Adulterated Samples.

Articles Purchased	Number analysed	Number genuine	No. adulterated	No. of sample	Formal samples	Informal samples	Amount of adulteration.	Remarks and action taken.
Milk .....	263	238	25	1695	1	...	Slightly deficient in milk fat .....	Other formal samples taken and found genuine.
				1703	1	...	6 per cent. deficient in milk fat .....	Sample No. 1866 taken subsequently.
				1725	...	1	58 per cent. deficient in milk fat .....	Formal samples taken and found genuine
				1726	...	1	Slightly deficient in milk fat .....	Do.
				1727	...	1	Very slightly deficient in milk fat .....	Do.
				1741	...	1	Slightly deficient in milk fat .....	Do.
				1753	...	1	Slightly deficient in milk fat .....	Do.
				1783	...	1	19 per cent. deficient in milk fat .....	Do.
				1809	1	...	Slightly watered .....	Sample No. 1864 taken subsequently.
				1849	1	...	32 per cent. deficient in milk fat .....	Fined £5
				1854	...	1	Contained 5 per cent. of added water .....	Sample No. 1864 taken subsequently.
				1855	...	1	Slightly deficient in milk fat .....	Sample taken subsequently from wholesaler.
				1856	...	1	11 per cent. deficient in milk fat .....	Formal samples taken and found genuine.
				1864	1	...	14 per cent. of added water .....	Fined £2 and 5/- costs.
				1866	1	...	20 per cent. deficient in milk fat .....	Fined £20
				1880	1	...	12 per cent. of added water .....	Fined £2
				1945	1	...	6 per cent. deficient in milk fat .....	Do.
				1946	1	...	10 per cent. deficient in milk fat .....	Do.
				2014	1	...	15 per cent. deficient in milk fat .....	Do.
				2015	1	...	14 per cent. deficient in milk fat .....	Do.
				2021	1	...	30 per cent. deficient in milk fat .....	Do.
				2039	...	1	16 per cent. deficient in milk fat .....	Formal samples taken and found genuine.
				2041	...	1	9 per cent. of added water .....	Do.
				2042	1	...	5 per cent. of added water .....	Warning letter from M.O.H.
				2069	...	1	20 per cent. deficient in milk fat .....	Formal samples taken and found genuine
Sponge cakes....	14	6	8	1840	...	1	0.1% Borates calculated as Boracic Acid...	Warning letter from M.O.H.
				1842	...	1	0.15% Borates calculated as Boracic Acid	Do.
				1844	...	1	0.07% Borates calculated as Boracic Acid	Do.
				1845	...	1	0.11% Borates calculated as Boracic Acid	Do.
				1846	...	1	0.04% Borates calculated as Boracic Acid	Do.
				1870	...	1	0.05% Borates calculated as Boracic Acid	Do.
				1871	...	1	0.025% Borates calculated as Boracic Acid	Do.
				1876	...	1	0.10% Borates calculated as Boracic Acid	Do.
Prescriptions ...	8	7	1	1848	...	1	10% deficient in Sodium, Bi-carbonate and	Formal samples taken and found genuine
Cond sed Machine						1	70% deficient in Emul-sio Chloroform BPC.	Warning letter from M.O.H.
Skimmed Milk	1	...	1	2079	...	1	Slightly deficient in Milk Solids. ....	

# APPENDIX 21.

## Cases of Infectious Disease notified during the Year 1923.

NOTIFIABLE DISEASE.	Cases notified in whole District.								Total Cases notified in each Locality.											Total Cases removed to Corporation Hospital.	Total deaths in the Borough				
	At Ages—Years.								St. Stephen's	Trinity	St. Michael's	St. John's	St. Silas'	St. Paul's	St. Peter's	St. Mary's	St. Matthew's	Park	St. Luke's			St. Mark's	St. Andrew's		
	At all Ages	Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards																	
Small-pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Croup) .....	35	...	8	15	7	4	1	...	...	...	...	...	1	4	4	3	...	3	2	8	3	3	...	...	...
Erysipelas .....	52	...	1	2	3	7	31	8	...	...	...	...	4	4	3	2	3	3	6	4	2	6	4	...	...
Scarlet Fever.....	216	...	47	134	29	6	...	...	...	...	...	...	9	11	14	15	4	3	22	22	21	32	25	...	...
Typhus Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever .....	3	...	...	1	1	1	...	...	...	...	...	...	1	...	...	...	...	...	1	1	...	...	...	...	...
Puerperal Fever .....	12	...	...	...	3	9	...	...	...	...	...	...	...	1	...	2	...	1	2	...	...	1	2	...	...
Cerebro-spinal Meningitis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia Neonatorum .....	15	15	...	...	...	...	...	...	...	...	...	...	1	4	...	...	...	1	3	1	...	2	1	...	...
Pulmonary Tuberculosis .....	(M 100	...	...	9	21	45	22	3	...	...	...	...	7	7	5	6	12	9	5	10	6	2	9	...	...
Other forms of Tuberculosis {	(F 76	...	2	7	22	31	13	1	...	...	...	...	5	2	5	7	7	4	8	5	3	5	8	9	...
Other forms of Tuberculosis {	(M 40	1	11	18	4	5	...	1	...	...	...	...	6	4	2	1	3	1	4	3	4	3	2	4	...
Poliomyelitis .....	62	...	9	29	10	8	6	...	...	...	...	...	4	4	1	8	6	1	5	3	4	3	2	7	...
Encephalitis Lethargica .....	1	...	1	...	3	4	3	...	...	...	...	...	1	1	3	...	1	...	...	...	1	...	...	...	...
Dysentery .....	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malaria .....	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Pneumonia .....	349	16	60	50	58	88	59	18	...	...	...	...	17	13	29	34	14	17	31	20	34	25	32	39	...
Diarrhoea .....	2	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...
TOTALS .....	974	33	140	265	161	209	135	31	...	...	...	...	53	49	67	80	55	39	77	75	91	71	89	100	...
																									209

# APPENDIX 22.

Shewing number of cases of Infectious Diseases notified from 1905 to 1923.

Disease.	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Smallpox .....	4	...	1	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Mem-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
branous Group)	157	166	150	100	102	96	107	55	76	62	39	52	50	57	30	69	45	52	35
Erysipelas ...	132	112	99	81	94	90	77	87	90	97	69	66	40	52	38	59	47	54	52
Scarlet Fever...	1578	849	544	595	1013	795	343	116	268	704	460	153	96	150	136	181	211	231	216
Enteric Fever	90	82	61	85	69	46	49	26	31	31	44	14	13	13	3	5	2	5	3
Puerperal Fever	24	12	25	11	11	10	9	9	8	10	5	5	3	5	5	12	15	7	12
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meningitis ...	...	...	...	...	...	...	...	1	...	...	...	2	...	1	2	...	...	...	...
Poliomyelitis ..	...	...	...	...	...	...	...	4	1	...	...	1	...	...	...	1	3	...	1
Pulmonary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis	...	...	...	...	...	...	...	217	230	212	213	154	131	176	124	88	150	145	176
Other forms of	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis	...	...	...	...	...	...	...	...	104	60	88	49	47	54	47	38	71	70	102
Ophthalmia	...	...	...	...	...	...	...	...	...	15	19	15	7	15	18	22	24	22	15
Neonatorum	...	...	...	...	...	...	...	...	...	...	...	1081	1938	1500	103	*	*	*	*
Measles.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	2	2	1	10
Encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	1	...	...
Dysentery ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	61	18	4	2	1
Malaria .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	114	158	176	275	349
Pneumonia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31	1	2
Diarrhoea .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals .....	1985	1221	880	872	1291	1038	585	515	808	1191	937	1592	2325	2083	689	654	782	865	974

\* No longer notifiable.

## APPENDIX 23.

## DISINFECTION.

Number of Rooms Sprayed .....	686
Tuberculosis .....	254
Fever .....	300
Vermin .....	13
Institutions .....	43
Other .....	76
Articles Disinfected by Steam .....	7689
Number of Articles Destroyed by Consent of Owners .....	406
Amount of Disinfectant Distributed :—	
Chloros— $139\frac{3}{4}$ gallons.	
Izal—2 gallons.	
Disinfectant Powder—5 packets.	
“ D ” Solution—1 gallon.	
Persons Cleansed at Disinfection Station .....	24
Cleansings .....	47
Library Books Fumigated .....	42

## APPENDIX 24.

## CORPORATION HOSPITAL.

REPORT OF THE RESIDENT MEDICAL OFFICER,  
DR. D. C. LAMONT.

The total number of Fever Patients admitted during 1923 was 241. This is 31 less than during 1922.

Table I.

## FEVER PATIENTS IN HOSPITAL on 1st January, 1923.

Scarlet Fever .....	27
Diphtheria .....	1
Measles .....	5
	—
	33
	—

Four cases of Scarlet Fever from outside the Borough were still in Hospital on the 1st January, 1923. These are not included in Table I.

Table II.

## SCARLET FEVER CASES ADMITTED.

Ages.	Males.	Females.	Totals.	Deaths.
1—2 years .....	1	1	2	—
2—3 „ .....	4	5	9	—
3—4 „ .....	4	8	12	—
4—5 „ .....	6	7	13	—
5—10 „ .....	26	36	62	—
10—15 „ .....	21	28	49	—
15—20 „ .....	8	8	16	—
20—25 „ .....	6	5	11	—
25—30 „ .....	0	1	1	—
30 and over .....	1	5	6	—
	—	—	—	—
Total for 1923 .....	77	104	181	—
	—	—	—	—
Total for 1922 .....	94	92	186	2

Five cases admitted as Scarlet Fever were found not to be so suffering. They are included in the subsequent tables.



One member of the staff, a probationer nurse, contracted Scarlet Fever during the year; she is included in Table II.

One case of Scarlet Fever was found on admission to hospital to be suffering also from Diphtheria; he is included in Table II. and not in III.

One case of Scarlet Fever was incubating Erysipelas on admission.

No instance of infection with another infectious disease occurred in the Scarlet Fever Ward.

Four "Return" cases of Scarlet Fever occurred; this is a rate of 1.9% of those discharged from the hospital.

One convalescent case of Scarlet Fever developed acute appendicitis, and was transferred to the Blackburn Royal Infirmary for operation. He was re-admitted to the Corporation Hospital one week after the operation had been performed.

One case of Scarlet Fever developed Ethmoiditis and Frontal Sinusitis, for which two operations were performed under general anæsthesia by Mr. Wishart.

The following complications or sequelæ occurred:—

	Present on admission to Hospital.	Developed while in Hospital.
Adenitis		
Rhinorrhœa		
Otorrhœa		
} occurring in the same patient		
Adenitis	0	1
Rhinorrhœa		
Otorrhœa		
Adenitis	2	15
Rhinorrhœa	3	12
Otorrhœa	2	7
Lobar Pneumonia	0	1
Albuminuria or Nephritis	1	7
Endocarditis	0	1
Rheumatism and Arthritis	0	5
Septic Sores	5	0
Septic Fingers or Toes	3	0
Impetigo	1	0
Urticaria	0	1

	Present on admission to Hospital.	Developed while in Hospital.
Cases of Squint (referred to School Medical Officer subsequent to discharge) .....	1	0
Ethmoiditis and Frontal Sinusitis .....	0	1
Acute Appendicitis .....	*1	1
Boils and Abscesses .....	0	2
Bronchitis .....	0	1
Tuberculous Disease of Hip .....	1	0
Tuberculous Glands in Neck .....	1	0
Rectal Abscess .....	1	0
Hysterical Paresis .....	0	1
Maxillary Sinusitis .....	*1	0
Operation for Mastoidectomy and Cerebral Abscess .....	*1	0
	—	—
	24	56
	—	—

One case of Scarlet Fever was recommended on discharge from Hospital to attend the School Clinic for removal of enlarged tonsils, and another case was recommended for removal of both adenoids and tonsils.

One case of Scarlet Fever, under School age, was recommended, on discharge from Hospital, to a private practitioner for removal of Tonsils and Adenoids.

The average duration of treatment was 34.5 days, and the average number of beds occupied was 17.7.

It is worthy of note that during November only 6 cases, and during December only 3 cases, of Scarlet Fever were admitted to hospital.

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\* Transferred from Royal Infirmary.

Table III.  
DIPHTHERIA CASES ADMITTED.

Ages.	Males.	Females.	Totals.	Deaths.
Under 1 year .....	0	0	0	—
1—2 years .....	1	1	2	—
2—3 „ .....	0	0	0	—
3—4 „ .....	2	0	2	—
4—5 „ .....	0	0	0	—
5—10 „ .....	7	5	12	1
10—15 „ .....	0	4	4	—
15—20 „ .....	2	3	5	—
20—25 „ .....	0	2	2	—
25 and over .....	1	4	5	—
	<hr/>	<hr/>	<hr/>	<hr/>
Total .....	13	19	32	1
	<hr/>	<hr/>	<hr/>	<hr/>
Total, 1922 .....	17	21	38	6

In four of the 32 cases the disease involved the larynx; one child was moribund on admission, and died within one hour. This was the only death, and the case-mortality was thus 3.1%; in 1922 there were 6 deaths and the case-mortality was 13%.

Intubation was performed on one of the laryngeal cases which recovered and tracheotomy in another. The remaining case recovered without operative measures being resorted to.

All the cases of faucial diphtheria were of a very mild type.

One “Carrier” of Diphtheria was admitted to Hospital.

One case of Scarlet Fever (included in Table I., but not in Table III.) was found to be suffering also from Diphtheria.

The following complications and sequelæ occurred:—

Cardiac Irregularity .....	3
Serum Rash .....	3
Nasal Phonation .....	2
Albuminuria .....	1
Adenitis .....	1

The average period of treatment was 25.8 days, and the average number of beds occupied was 3.7.

Eight cases admitted as Diphtheria were found not to be so suffering. They are not included in Table III.

#### MEASLES CASES.

Seven cases of Measles were admitted on the recommendation of their own doctors. Nearly all came from homes with poor hygienic conditions.

Five were suffering from Broncho-pneumonia on admission to hospital, one from Meibomian cyst and Impetigo, and one from Otorrhœa.

There was no death from Measles or its complications.

Table IV.

#### MEASLES.

Ages.		Males.	Females.	Totals.	Deaths.
1—2 years	.....	0	2	2	—
2—3 „	.....	0	1	1	—
3—4 „	.....	1	0	1	—
4—5 „	.....	0	2	2	—
5—10 „	.....	0	1	1	—
10—15 „	.....	0	0	0	—
15 and over	.....	0	0	0	—
		—	—	—	—
Total	.....	1	6	7	Nil.
		—	—	—	—

#### OTHER DISEASES.

ENTERIC FEVER.—Three cases were admitted as Enteric Fever during the year, but this diagnosis proved to be erroneous. All gave a negative Widal reaction, and were found to be suffering respectively from :—

Pneumonia (recovered).

Influenza (recovered).

Acute Miliary Tuberculosis (died).

ERYSIPELAS.—Three cases of Facial erysipelas were admitted, and recovered. One of these was admitted as Diphtheria, but was proved to be suffering from Erysipelas.

WHOOPING COUGH.—Six cases of Whooping Cough were admitted. All 6 cases were under 4 years of age.

Two were complicated with Broncho-pneumonia; one case was transferred from Queen's Park Hospital. All these cases were admitted at the request of the Poor Law Authorities.

The following cases of "Other Diseases" were treated:—

NO. OF CASES.	DISEASE.	SEX.	AGE.	RESULT.
1	Chicken Pox.	Male.	21 years	Recovered.
1	Vincent's Angina.	Female.	18 "	Recovered.
2	Puerperal Sepsis	Female.	20 "	Transferred to B.R.I. for operation.
		Female.	34 "	Recovered.
1	Gonorrhœa.	Female.	22 "	Referred to V.D. Clinic.
1	Tuberculous Meningitis.	Female.	10 "	Died.
1	Pneumonia.	Female.	14 "	Subsequently proved to be Tuberculosis and transferred to Tuberculosis Ward.
2	Ophthalmia Neonatorum.	Male.	3 days.	Recovered.
		Female.	10 "	Recovered.

The following are the final diagnoses in the 13 cases in which the original diagnosis was revised:—

*A.—Admitted as Scarlet Fever.*

	Cases.	Deaths.
Measles .....	2	0
Influenza .....	1	0
Pneumonia .....	1	1
No apparent disease .....	1	0
	—	—
Total .....	5	1
	—	—

*B.—Admitted as Diphtheria.*

	Cases.	Deaths.
Tonsilitis .....	7	0
Erysipelas .....	1	0
	—	—
Total .....	8	0
	—	—

INSTITUTIONAL CASES, AND CASES FROM OTHER DISTRICTS.

The following cases were admitted from local institutions, or from outside the Borough, and are included in the foregoing tables. The cost



of maintenance of the out-of-the-Borough patients was charged to the Local Authority responsible for sending the cases.

A.—From the Blackburn and East Lancashire Royal Infirmary :—

	<i>Cases.</i>
<i>Scarlet Fever.</i>	4

These were complicated on admission by :—

Operation for Appendicitis .....	2
Operation for Maxillary Antrum Sinusitis ...	1
Operation for Mastoid Inflammation and cerebral abscess .....	1
Total .....	4

B.—From the Queen's Park Hospital :—

<i>Scarlet Fever.</i>	2
-----------------------	---

These were complicated on admission by :—

Tuberculous glands in Neck .....	1
Tuberculous Disease of Hip .....	1
<i>Whooping Cough</i> .....	1
Total .....	3

C.—From Outside the Borough :—

<i>Scarlet Fever</i> .....	11
Admitted as Scarlet Fever, but found to be suffering from Measles .....	1
<i>Diphtheria</i> .....	4
Admitted as Diphtheria, but found to be suffering from Tonsillitis .....	2
Total .....	18

The 18 cases admitted from outside the Borough were from the following districts :—

	Cases.
Blackburn Rural District .....	11
Rishton .....	3
Whalley .....	1
Church .....	1
Darwen .....	1
Oswaldtwistle .....	1

#### CROSS INFECTION.

No case of cross infection occurred during the year.

Table V.

PATIENTS IN HOSPITAL ON 31ST DECEMBER, 1923.

Scarlet Fever .....	3
Diphtheria .....	2
Ophthalmia Neonatorum .....	1
Gonorrhœa (mother of case of Ophthalmia) ...	1
Whooping Cough .....	2
	—
Total .....	9
	—

## APPENDIX 25.

## BACTERIOLOGICAL EXAMINATIONS AT THE CORPORATION HOSPITAL.

	Positive. 1923.	Negative. 1923.	Total. 1923.	Total. 1922.
For Diphtheria Bacilli :—				
<i>Swab</i> —				
Private Practitioners ....	22	128	150	205
Hospital .....	27	105	132	145
For Tubercle Bacilli :—				
<i>Sputum</i> —				
Private Practitioners .....	59	200	259	374
Hospital .....	250	369	619	479
Tuberculosis Officer .....	58	185	243	304
<i>Urine</i> —				
Private Practitioners .....	—	2	2	5
<i>Milk</i> —				
	—	4	4	—
For Gonococci—				
<i>Pus</i> —				
Private Practitioners ....	3	—	3	3
Hospital .....	2	—	2	—
For Enteric Fever :—				
<i>Blood for Widal Reaction</i> —				
Private Practitioners ....	—	12	12	8
Hospital .....	—	2	2	3
For Cerebro-Spinal Meningitis :—				
<i>Cerebro-Spinal Fluid</i> —				
Private Practitioners ....	—	1	1	1
Hospital .....	—	3	3	—
For Vincent's Angina :—				
<i>Swab</i> —				
Private Practitioners ....	1	—	1	3
Hospital .....	—	—	—	1

	Positive. 1923.	Negative. 1923.	Total. 1923.	Total. 1922.
For Examination of Hair for Ring- worm :—				
Private Practitioners ....	1	—	1	5
School Medical Service...	26	39	65	—
Excretions for Bacillus of Typhoid Fever :—				
Private Practitioners ....	—	1	1	3
Hospital .....	—	1	1	1
For Examination of Urine for Pus and Organisms :—				
Private Practitioners ....	—	3	3	11
Hospital .....	—	2	2	—
For Examination of Milk for Bacte- rial Count and Bacillus Coli Content .....				
	—	—	27	12
Totals .....	449	1057	1533	1563

# APPENDIX 26. TUBERCULOSIS 1923.

Age Periods.	Notifications—New Cases,				Deaths.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under One Year	—	—	1	—	—	—	1	—
1-5	—	2	11	9	—	1	5	2
5-10	5	4	7	13	2	—	2	1
10-15	4	3	11	16	3	1	2	3
15-20	9	12	2	2	1	8	1	1
20-25	12	10	2	8	3	8	1	3
25-35	22	15	5	6	7	8	1	1
35-45	23	16	—	2	14	6	2	1
45-55	15	7	—	5	14	4	—	1
55-65	7	6	—	1	8	2	—	—
65 and upwards	3	1	1	—	3	—	1	1
Totals	100	76	40	62	55	38	16	14

Table showing new cases of Tuberculosis coming to the knowledge of the Medical Officer of Health during 1923 otherwise than by notification on Form A or Form B under the Public Health (Tuberculosis) Regulations, 1912. They are unnotified cases in which the death was certified to be due to Tuberculosis. They are included in the last four columns of the preceding table.

Age Periods.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards	Total Cases.
Pulmonary Males ...	—	—	—	—	—	1	1	1	2	—	2	7
„ Females ...	—	—	—	—	1	—	—	—	2	—	—	3
Non-Pulmonary Males	—	1	—	1	1	—	—	1	—	—	1	5
„ Females	1	—	1	—	—	1	—	—	—	1	—	4



## APPENDIX 27.

## Ages at Death from Pulmonary Tuberculosis.

Years.	0-5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	Over 65 Years.	Total
1901-1921 .....	98 ...	47 ...	72 ...	229 ...	285 ...	573 ...	587 ...	406 ...	203 ...	46 ...	2546
1922 .....	— ...	1 ...	5 ...	12 ...	12 ...	25 ...	27 ...	8 ...	5 ...	1 ...	96
1923 .....	1 ...	2 ...	4 ...	9 ...	11 ...	15 ...	20 ...	18 ...	10 ...	3 ...	93
Grand total—											
23 years...	99 ...	50 ...	81 ...	250 ...	308 ...	613 ...	634 ...	432 ...	218 ...	50 ...	2735

## APPENDIX 28.

## TUBERCULOSIS DISPENSARY SYSTEM.

	Pulmonary.	Non-Pulmonary.
Cases from 1922 .....	695	240
New Notifications .....	176	102
Total at end of 1923 .....	871	342
No. dead .....	93	39
,, cannot be traced .....	6	4
,, information refused .....	2	—
,, removed to other towns .....	25	6
,, discontinued as apparently cured	40	18
	166	58

NUMBER UNDER SUPERVISION,  
December, 1923.

a. Domiciliary Treatment .....	398	30
b. Dispensary treatment .....	117	54
c. Dispensary observation .....	57	21
d. Meathop Sanatorium .....	11	—
e. Corporation Hospital .....	26	—
f. Poor-Law Institution .....	9	30
g. Royal Infirmary :—		
(a) In-Patients .....	—	1
(b) Out-Patients .....	—	14
h. Private Doctor .....	43	31
i. No Treatment .....	34	96
j. Residential Open-Air School .....	6	5
k. Other Institutions .....	4	2
	705	284

## APPENDIX 28—contd.

Particulars of Cases Discontinued during 1923.

Pulmonary : Male, 21 ; female, 19 ; total, 40.

Non-Pulmonary : Male, 11 ; Female, 7 ; total, 18.

YEARS WHEN DISCONTINUED PULMONARY CASES were notified :—

1914		1915		1916		1917		1918		1919		1920		1921		1922		1923	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	...	...	2	...	3	3	1	3	1	2	6	1	3	1	...	6	2	4	1

YEARS WHEN DISCONTINUED NON-PULMONARY CASES WERE NOTIFIED :— ...

1916		1917		1918		1919		1920		1921		1922		1923	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
...	1	1	...	3	1	...	1	3	...	2	4	1	...	1	...

Pul.

Non-Pul.

Cases in which original diagnosis was doubtful :—

M = 7  
F = 6 } 13

No. of Cases which had received Institutional treatment :—

M = 9  
F = 9 } 18

M = 0  
F = 1 } 1

STAGE OF DISEASE WHEN NOTIFIED :—

	Early.		Intermediate.		Advanced.	
	M	F	M	F	M	F
Pulmonary ... ..	20	17	1	2	...	...
Non-Pulmonary ... ..	11	7	...	...	...	...
Total ... ..	31	24	1	2	...	...

Criterion of Cure.	Pulmonary.			Non-Pulmonary.		
	M	F	Total	M	F	Total
No evidence of active disease during whole time under observation at Dispensary ... ..	9	6	15	2	...	2
No signs of active disease for 1 year ...	3	3	6	1	2	3
„ „ for 2 yrs. or more	6	8	14	8	5	13
No. of cases refused to attend for examination and reported to be well for past few years ... ..	3	2	5	...	...	...
Total ... ..	21	19	40	11	7	18

## APPENDIX 28.—contd.

## Interval between Notification and Death from Pulmonary Tuberculosis.

Not Notified.	Under 1 week.	1-2 weeks.	2-4 weeks.	2-3 months.	3-6 months.	6-12 months.
10	14	2	10	6	9	4
One year.	Two years.	Three years.	Four years.	Five years.	Six years.	Seven years and over.
14	9	2	2	4	2	5

Total=93.

1.	Number of persons placed during the year under observation for the purpose of diagnosis .....	28
2.	Number of cases in which the period of observation exceeded two months .....	11
3.	Number of visits paid by Tuberculosis Officer to the homes of of patients .....	132
4.	Number of visits paid by Nurses or Health Visitors to the homes of patients for dispensary purposes .....	3211
5.	Number of Attendances of Patients at the Dispensary: Insured, 2,439; not Insured, 786; total .....	3225
6.	Number of Patients under Domiciliary Treatment: Pulmonary, 398; non-Pulmonary, 30; total .....	428
7.	Number of Reports received in respect of patients under Domiciliary Treatment .....	45
8.	Number of specimens of sputum examined in connection with the work of the Dispensary: Postive, 58; Negative, 185; total .....	243

## Houses Disinfected During the Year 1923.

On removal to Hospital .....	147
On Death .....	61
On changing address .....	9

Reports made to Local War Pensions Committee by the Tuberculosis Officer on general progress and capacity for work of Tuberculous Discharged Soldiers .....	238
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## APPENDIX 29.

SLEEPING ACCOMMODATION OF NOTIFIED CASES OF  
PULMONARY TUBERCULOSIS.

The following table gives particulars of the isolation, or lack of it, of patients suffering from Pulmonary Tuberculosis at the time of notification, and after visitation by Tuberculosis Officer or Visitors.

The figures relate only to patients who are or have been infectious as shown by the demonstration of tubercle bacilli in the sputum, and who were at home during the last quarter of 1923.

	On First Visit.	Afterwards.
No. who occupied a separate bedroom .....	132	284
No. who occupied a separate parlour alone .....	11	13
No. who occupied a kitchen alone .....	11	11
No. who occupied a shelter in yard .....	1	2
No. who occupied a separate bed in a room occupied by :—		
One other person .....	37	30
Two other persons .....	43	23
Three other persons .....	12	4
Many other persons (Common Lodg- ing House, &c.) .....	7	4
No. who occupied a bed in common with :—		
One other person .....	201	166
Two other persons .....	34	10
Three other persons .....	4	1
Four other persons .....	3	—
Two beds in a room :—		
Two persons in each bed .....	55	13
Three persons in each bed .....	13	3
Totals .....	564	564

Annual Return showing the work of the Tuberculosis Dispensary during the year 1923 in relation to diagnosis.

Number of			Under observa- tion pending diagnosis on January 1st, 1923.	Applying for the first time during the year 1923.	Total.	Found to be			Under observa- tion pending diagnosis on December 31st, 1923.	Ceased attendance before completion of Diagnosis.
						Suffering from Tuberculosis		Not suffering from Tuberculosis.		
	Adults	Child- ren				Pulmonary.	Non- pulmonary.			
(A) All persons (including "contacts.") .....	M		5	129	134	73	12	40	6	3
	F		7	75	82	39	5	32	4	2
	M	Child- ren	6	48	54	8	14	28	4	—
	F		5	55	60	5	22	30	3	—
	Total		23	307	330	125	53	130	17	5
(B) "Contacts" included in (a). .....	M	Adults	2	15	17	6	—	9	1	1
	F		6	17	23	3	1	16	2	1
	M	Child- ren	6	22	28	3	4	18	3	—
	F		4	34	38	2	9	25	2	—
	Total		18	88	106	14	14	68	8	2
(C) Insured persons included in (a).....	M		5	119	124	69	10	37	5	3
	F		5	44	49	21	5	19	2	2



## APPENDIX 30.

## REPORT BY THE TUBERCULOSIS OFFICER ON THE TREATMENT OF TUBERCULOUS PATIENTS BY MEANS OF THE ARTIFICIAL PNEUMOTHORAX METHOD, 1923.

Total number of patients in which this method of treatment was attempted .....	21
Number in which treatment was found satisfactory and continued....	13
Number found not suitable for this method of treatment, and therefore discontinued .....	8
Number of patients in whom the disease became quiescent as result of this method of treatment .....	4
Number of patients who showed distinct improvement as the result of this method of treatment, and in whom the disease was controlled .....	7
Number of patients in whom the disease remained in statu quo.....	2
Number of patients still under treatment by this method on the 31st December, 1923 .....	10

## APPENDIX 30 (continued).

The following Table gives particulars of all the Patients treated by Artificial Pneumothorax :—

CASE.	NUMBER OF INJECTIONS GIVEN.	REMARKS.
1	19	Marked improvement. Disease practically quiescent.
2	17	Very good result. Disease quiescent.
3	11	Improved. Disease quiescent.
4	16	Very good result. Disease quiescent.
5	18	Great improvement. Disease almost quiescent. Treatment being continued.
6	20	Great improvement. Disease almost quiescent.
7	12	Improved. Had to stop treatment on account of complications.
8	12	Disease quiescent.
9	19	Distinct improvement, but recent active disease in other lung.
10	4	Very satisfactory improvement. Treatment being continued.
11	4	Very satisfactory improvement. Treatment being continued.
12	2	Improving. Treatment being continued.
13	2	Found to be unsuitable for this method of treatment.
14	2	" " " " " " " "
15	2	" " " " " " " "
16	1	" " " " " " " "
17	1	" " " " " " " "
18	8	" " " " " " " "
19	2	" " " " " " " "
20	7	" " " " " " " "
21	18	Considerable improvement. Disease quiescent in lung treated by artificial pneumothorax. Recent active disease in other lung.

APPENDIX 31.  
Showing the extent of Residential Treatment for Pulmonary Tuberculosis during 1923.

		In Institutions on Jan. 1st.	Admitted during 1923.	Discharged during 1923.	Died in the Institutions.	In Institutions on Dec. 31st 1923
Meathop Sanatorium.	Adults					
	M	7	15	17	...	5
	F	3	10	7	...	6
Corporation Hospital.	Adults					
	M	13	86	65	17	17
	F	10	48	46	3	9
	Children					
	M	5	4	7	2	...
	F	2	4	5	1	...
Resident'al Open Air School.	Children					
	M	...	27	14	...	13
	F	...	17	9	0	7
Total....		40	211	170	23	57

Table showing the immediate results of Treatment of Patients discharged from the Blackburn Corporation Hospital during 1923.

		PULMONARY TUBERCULOSIS.—Duration of Residential Treatment..													
Condition at time of discharge		Under 3 months			3-6 months			6-12 months			More than 12 months			TOTAL	
		M	F	Ch.	M	F	Ch.	M	F	Ch.	M	F	Ch.		
CLASS A Cases in which Tubercle Bacilli have never been found	Quiescent .....	..	..	2	2	..	1	..	..	2	..	..	..	7	
	Much improved .....	12	5	2	8	5	4	..	..	1	..	..	..	37	
	No material improvement .....	3	2	..	..	..	..	..	..	..	..	..	..	5	
	Died in Institution.....	..	..	3	..	..	..	..	..	..	..	..	..	3	
CLASS B 1 Early Cases in which Tubercle Bacilli have been found	Quiescent.....	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Much improved .....	1	1	..	3	1	..	1	1	..	..	..	..	8	
	No material improvement .....	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Died in Institution.....	..	..	..	..	..	..	..	..	..	..	..	..	..	
CLASS B 2 Intermediate Cases in which Tubercle Bacilli have been found	Quiescent.....	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Much improved .....	7	4	..	10	9	..	5	2	..	1	..	..	38	
	No material improvement .....	1	3	..	1	..	..	..	..	..	..	..	..	5	
	Died in Institution.....	5	1	..	2	..	..	..	..	..	..	..	..	8	
CLASS B 3 Advanced Cases in which Tubercle Bacilli have been found	Quiescent .....	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Much improved .....	5	3	..	1	4	..	..	3	..	..	..	..	16	
	No material improvement .....	3	2	..	..	..	..	..	..	..	..	..	..	5	
	Died in Institution.....	7	1	..	2	1	..	1	..	..	..	..	..	12	
Final Diagnosis		Under 1 week.			1-2 weeks.			2-4 weeks.			More than 4 weeks.				
Tuberculous .....		..	..	..	..	..	..	..	1	..	..	..	..	1	
Non-Tuberculous .....		..	..	..	1	..	..	..	..	..	..	..	..	1	
Doubtful .....		..	..	..	..	..	..	..	..	..	..	..	..	..	
Total .....		44	22	7	30	20	5	7	7	3	1	..	..	146	

APPENDIX 33.  
Annual return showing the immediate results of treatment of patients discharged from Meathop  
Sanatorium during the year 1923.

PULMONARY TUBERCULOSIS.—Duration of Residential Treatment.														
Condition at time of discharge.	Under 3 months			3-6 months			6-12 months			More than 12 months			TOTAL	
	M	F	Ch.	M	F	Ch.	M	F	Ch.	M	F	Ch.		
CLASS A Cases in which Tubercle Bacilli have never been found	2	...	...	2	1	...	1	...	...	...	...	...	6	
	...	...	...	1	...	...	...	...	...	...	...	...	3	
	...	1	...	...	...	...	...	...	...	...	...	...	1	
	...	...	...	...	...	...	...	...	...	...	...	...	...	
CLASS B 1 Early Cases in which Tubercle Bacilli have been found	...	...	...	1	2	...	1	1	...	...	...	...	5	
	1	...	...	1	...	...	1	...	...	...	...	...	3	
	...	...	...	...	...	...	...	...	...	...	...	...	...	
	...	...	...	...	...	...	...	...	...	...	...	...	...	
CLASS B 2 Intermediate Cases in which Tubercle Bacilli have been found	...	...	...	...	...	...	...	...	...	...	...	...	2	
	1	...	...	1	...	...	1	...	...	...	...	...	3	
	...	1	...	...	...	...	...	...	...	...	...	...	1	
	...	...	...	...	...	...	...	...	...	...	...	...	...	
CLASS B 3 Advanced Cases in which Tubercle Bacilli have been found	...	...	...	...	...	...	...	...	...	...	...	...	...	
	...	...	...	...	...	...	...	...	...	...	...	...	...	
	...	...	...	...	...	...	...	...	...	...	...	...	...	
	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total .....	4	2	...	6	3	...	7	2	...	...	...	...	24	



## APPENDIX 34.

Condition at end of 1923 of Patients treated at and discharged from the Blackburn Corporation Hospital.

Year Discharged	At full work. No Symptoms	At full work, but with difficulty	Not able to work full time owing to ill health	Not able to work but able to get about	Confined to the house	Confined to bed	Died (not in the Institution at time of first admission)	Cannot trace	Total
1	2	3	4	5	6	7	8		
1913	15	2	...	...	...	...	41	33	91
1914	11	2	...	...	...	...	36	19	68
1915	2	1	1	1	...	1	57	10	73
1916	3	...	2	...	...	1	44	6	56
1917	4	2	1	2	...	...	28	1	38
1918	8	3	2	2	...	...	30	12	57
1919	17	6	4	5	1	3	33	4	73
1920	11	7	4	11	4	1	34	1	73
1921	14	12	2	9	3	...	35	2	77
1922	12	16	7	25	7	2	32	2	103
1923	16	7	12	52	13	4	17	2	123
Total	113	58	35	107	28	12	387	92	832
%	13·6	6·9	4·1	12·8	3·4	1·4	46·5	11·3	...

## APPENDIX 35.

Condition at end of 1923 of Patients treated at and discharged from  
Meathop Sanatorium.

Year Dis- charged.	At full work. No Symptoms	At full work, but with difficulty	Not able to work full time owing to ill health	Not able to work, but able to get about	Confined to the house	Confined to bed	Dead	Cannot trace	Total
	1	2	3	4	5	6	7	8	
1908	1	...	..	...	..	...	1	3	5
1909	1	...	...	...	...	...	10	4	15
1910	...	...	1	1	...	...	16	5	23
1911	1	...	...	1	...	...	13	2	17
1912	...	...	1	...	...	...	16	2	19
1913	6	2	1	2	...	...	13	12	36
1914	10	2	2	1	...	...	12	11	38
1915	6	1	...	1	...	...	13	11	32
1916	6	2	2	...	1	...	15	4	30
1917	10	1	2	2	..	...	18	3	36
1918	5	3	5	1	..	...	22	4	40
1919	6	4	3	9	1	...	16	9	48
1920	8	5	5	6	2	1	14	1	42
1921	8	9	8	7	1	...	6	3	42
1922	3	4	2	8	1	1	2	1	22
1923	1	5	6	9	2	..	1	...	24
Total	72	38	38	48	8	2	188	75	469
%	15.4	8.1	8.1	10.2	1.7	0.4	40.2	15.9	...

RETURN relating to all persons who were treated at the Treatment Centre for VENEREAL DISEASES at Royal Infirmary, Blackburn, during the year ended 31st December, 1923.

	Syphilis		Soft Chancre		Gonorrhœa		Conditions other than Venereal		TOTAL	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1. Number of persons who, on the 1st Jan. 1923, were under treatment or observation for...	289	160	3	...	108	39	13	8	413	207
2. Number of persons dealt with during the year at or in connection with the out-patient Clinic for the first time and found to be suffering from -										
Syphilis only .....	71	34	...	...	...	...	...	...	71	34
Soft Chancre only .....	...	...	...	...	...	...	...	...	...	...
Gonorrhœa only .....	...	...	...	...	62	15	...	...	62	15
Syphilis and soft chancre ...	...	...	...	...	...	...	...	...	...	...
Syphilis and Gonorrhœa .....	3	4	...	...	3	4	...	...	6	8
Gonorrhœa and soft chancre...	...	...	...	...	...	...	...	...	...	...
Syphilis, soft chancre and Gonorrhœa .....	...	...	...	...	...	...	...	...	...	...
Conditions other than Venereal	...	...	...	...	...	...	125	97	125	97
Total—Item 2 .....	74	38	...	...	65	19	125	97	264	154
Total—Items 1 & 2 ...	363	198	3	..	173	58	138	105	677	361
3. Number of persons who ceased to attend the out-patient Clinic.										
(a) before completing the first course of treatment for .....	56	26	2	...	29	26	...	...	87	52
(b) after one or more courses but before completion of treatment for.....	29	62	...	...	...	...	...	...	29	62
(c) after completion of treatment, but before final tests as to cure of .....	19	24	...	...	12	2	...	...	31	26
4. Number of persons transferred to other Treatment centres after treatment for.....	18	5	...	...	18	1	...	...	36	6
5. Number of persons discharged from the out-patient Clinic after completion of treatment and observation for.....	12	8	1	...	16	1	128	101	157	110
Dead .....	4	1	...	..	1	...	...	...	5	1
6. Number of persons who, on the 1st January, 1924, were under treatment or observation for...	225	72	..	...	97	28	10	4	332	104
Total — Items 3, 4, 5 & 6 ...	363	198	3	...	173	58	138	105	677	361
7. Out-patient attendances:										
(a) For individual attention by the Medical Officer.....	2452	1165	51	...	1356	302	243	132	4102	1599
(b) For Irrigation, dressings, etc.	59	19	..	..	3134	340	...	...	3193	359
Total Attendances .....	2511	1184	51	...	4490	642	243	132	7295	1958
8. Aggregate number of "In-patient" days of treatment given to persons who were suffering from .....	123	126	...	..	108	137	...	...	231	263
					For detection of		Other		For Wasserman	
					Spirochætes		Gonococci		Organisms	
9. Examinations of Pathological material : —									Reaction.	
(a) Specimens which were examined at, and by the Pathologist of, the Treatment Centre ...					5		362		...	
(b) Specimens from persons attending at the Treatment Centre which were sent for examination to an approved laboratory .....					...		...		730	

## APPENDIX 36—Continued.

Statement showing the services rendered at the Treatment Centre during the year, classified according to the areas in which the patients resided.

Name of County or County Borough (or Country in the case of persons residing elsewhere than in England and Wales) to be inserted in these headings.	Blackburn	County of Lancaster	Manchester	Wigan	Preston	Burnley	Total.
A. Number of persons from each area dealt with during the year at or in connection with the Out-patient Clinic <b>for the first time</b> and found to be suffering from :—							
Syphilis .....	64	48	...	...	...	...	112
Soft Chancre.....	...	...	..	...	...	...	...
Gonorrhœa .....	47	35	2	...	...	...	84
Conditions other than Venereal	122	99	...	1	...	...	222
Total .....	233	182	2	1	...	...	418
B. Total number of attendances at the Out-patient Clinic of all patients residing in each area...	5575	3633	24	1	9	11	9253
C. Aggregatenumber of "In-patient days" of all patients residing in each area ... ..	192	302	...	...	...	...	494
D. Number of doses of arsenobenzol compounds given in the :—							
1. Out-patient Clinic.....	1026	715	...	...	1	1	1743
2. In-patient Dept.....							
to patients residing in each area							

(Signed),

W. CRAN DUTHIE, M.B., C.M.,

ELLA MACKENZIE, M.A., M.B.Ch.B., D.P.H.,

Medical Officers of the Treatment Centre.

## APPENDIX 37.

## SPECIAL CLINIC FOR CHILDEN INFECTED WITH VENEREAL DISEASE.

No. dealt with during 1923 for the first time and found to be suffering from:—

	Males.	Females.
Syphilis only .....	12	16
Gonorrhœa only .....	0	3
Conditions other than Venereal .....	1	4
	—	—
Total .....	13	23 = 36
	—	—

No. of persons transferred to other treatment centres after treatment for:—

Syphilis .....	5	1
Gonorrhœa .....	0	2
	—	—
Total .....	5	3 = 8
	—	—

No. of persons who on January 1st, 1924, were under treatment or observation for:—

Syphilis .....	7	15
Gonorrhœa .....	0	1
Conditions other than Venereal .....	0	1
	—	—
Total .....	7	17 = 24
	—	—

Total No. of Attendances:—

Syphilis .....	98	160
Gonorrhœa .....	0	5
Conditions other than Venereal .....	20	11
	—	—
Total .....	118	176 = 294
	—	—

No. of persons from each area suffering from:—

	B'kburn.	D'wen.	B'nley.	Total.
Syphilis .....	26	1	1	28
Gonorrhœa .....	3	0	0	3
Conditions other than Venereal .....	5	0	0	5
	—	—	—	—
Total ...	34	1	1	36
	—	—	—	—



Total No. of attendances of all patients residing in each area	276	17	1	294
No. of doses of Arsenobenzol Preparations .....	233	16	0	249

## AGE INCIDENCE OF DISEASE AT FIRST ATTENDANCE.

<i>Babies—</i>	Males.	Females.
One Month .....	2	3
Two Months .....	1	2
Three Months .....	3	2
Four Months .....	1	0
Five Months .....	1	1
Six Months .....	2	1
Seven Months .....	0	0
Eight Months .....	1	0
Nine Months .....	0	3
1—2 years .....	0	1
2—3 „ .....	0	1
5—6 „ .....	0	2
<i>Mothers—</i>		
20—30 „ .....	0	2
30—40 „ .....	0	2
40—50 „ .....	0	1

(Signed) ELLA MACKENZIE.

## APPENDIX 38.

## V. D. SPECIMENS EXAMINED.

	Manchester University.				Blackburn Royal Infirmary				TOTAL	
	BLACKBURN		OTHER AREAS		BLACKBURN		OTHER AREAS			
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
<b>For detection of Spirochetes</b>										
For treatment centre	...	...	...	...	...	2	1	2	1	4
For practitioners ...	...	...	...	...	...	...	...	...	...	...
<b>For detection of Gonococci</b>										
For treatment centre	...	...	...	...	44	137	27	154	71	291
For practitioners .....	1	3	...	...	...	...	...	...	1	3
For Union Infirmary	..	2	...	...	...	...	...	...	...	2
<b>For Wassermann reaction</b>										
For treatment centre	97	251	87	257	...	...	...	...	184	508
For practitioners .....	18	56	1	12	...	...	...	...	19	68
For Union Infirmary	8	24	...	...	...	...	...	...	8	24
Total ... ..	124	336	88	269	44	139	28	156	284	900

# Appendix 39.—Deaths under One Year, arranged according to Days, Weeks and Months.

CAUSES OF DEATH.	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	1st week.	2nd week.	3rd week.	4th week.	Under 1 month.	1 month to 2.	2 months to 3.	3 months to 4.	4 months to 5.	5 months to 6.	6 months to 7.	7 months to 8.	8 months to 9.	9 months to 10.	10 months to 11.	11 months to 12.	TOTAL.
All causes { Certified..... Uncertified.....	41 2	6 ...	6 ...	2 ...	5 ...	2 ...	2 ..	64 2	7 ...	17 ...	9 ...	97 2	19 ...	12 ...	11 ...	12 ...	9 ..	9 ...	9 ...	7 ...	8 ...	6 ...	9 ...	208 2
Smallpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken-pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping-cough.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Croup .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Meningitis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Abdominal Tuberculosis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuberculous Diseases .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meningitis ( <i>not Tuberculous</i> ) .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Convulsions .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Laryngitis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia (all forms).....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteritis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gastritis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rickets.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Suffocation, overlying.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Injury at birth .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Congenital Malformations .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Premature birth .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atrophy, Debility & Marasmus .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other causes .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL.....	43	6	6	2	5	2	2	66	7	17	9	99	19	12	11	12	9	9	9	7	8	6	0	210

Nett Births registered { legitimate..... 2005  
 during the calendar year { illegitimate..... 89  
 Nett Deaths registered { legitimate infants..... 197  
 during the calendar year of { illegitimate infants..... 113

## APPENDIX 40.

## Death Rates under One year of age.

CAUSE OF DEATH.	Rates per 1,000 Births.											
	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Small-pox .. . . . . .	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0
Chicken-pox .. . . . . .	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0
Measles .. . . . . .	4'7	1'7	1'7	5'3	1'9	2'4	4'5	0'0	3'5	1'1	2'7	0'9
Scarlet Fever.....	0'3	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0
Whooping cough ...	5'1	1'3	2'1	8'5	1'4	3'0	3'8	0'5	0'0	3'5	1'8	2'3
Diphtheria and Croup .....	0'0	0'0	0'3	0'0	0'0	0'6	0'0	0'0	0'7	0'3	0'0	0'0
Erysipelas .. . . . . .	0'0	0'0	0'7	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0
Tuberculous Meningitis .....	0'7	1'0	0'0	0'4	0'4	1'8	3'2	1'0	1'0	0'0	0'4	0'4
Abdominal Tuberculosis .....	2'1	4'1	1'4	2'0	1'4	1'8	2'5	0'5	0'4	1'1	0'4	0'0
Other Tuberculous Diseases ...	0'3	0'3	0'3	0'8	0'0	0'0	0'6	0'0	0'0	0'0	0'0	0'0
Meningitis ( <i>not Tuberculous</i> ) .	1'4	2'4	0'7	0'4	2'4	2'4	1'9	0'0	4'2	0'7	2'3	0'9
Convulsions .. . . . . .	13'5	13'0	9'2	9'8	8'2	12'3	5'1	4'9	4'4	8'3	4'5	4'3
Laryngitis .. . . . . .	0'0	1'0	0'3	0'8	0'4	0'0	0'0	0'0	0'0	0'0	0'0	0'0
Bronchitis .. . . . . .	9'8	11'6	13'5	23'2	13'5	11'0	14'8	11'4	10'2	10'6	5'9	7'1
Pneumonia (all forms) .....	12'4	11'6	10'3	15'0	14'0	11'0	10'9	10'8	10'2	14'2	12'8	12'4
Diarrhœa .. . . . . .	11'3	29'8	12'1	11'4	5'3	8'0	10'9	5'4	10'2	7'9	3'2	4'3
Enteritis .. . . . . .	0'0	5'1	0'7	5'7	4'8	1'2	3'2	0'0	1'4	4'7	4'1	4'8
Gastritis .. . . . . .	0'0	0'0	0'7	2'0	1'9	0'0	0'0	0'5	1'7	1'1	1'8	0'9
Syphilis .. . . . . .	0'7	1'7	0'3	0'8	0'9	0'6	3'2	0'5	1'7	2'3	0'9	2'8
Rickets .. . . . . .	0'0	0'3	0'7	1'2	0'0	0'6	0'0	1'0	0'0	1'5	0'9	0'4
Suffocation, overlying .....	1'0	1'0	1'7	1'2	0'0	0'6	0'0	0'5	0'7	0'0	0'4	0'4
Injury at Birth .. . . . . .	0'0	0'3	1'7	0'8	0'0	0'6	0'0	0'5	1'4	0'3	1'3	0'4
Atelectasis .. . . . . .	1'0	1'7	1'7	2'0	3'3	1'8	2'5	1'6	1'7	2'7	0'4	0'9
Congenital Malformations .....	4'3	1'0	5'0	6'1	5'8	4'3	6'4	2'7	4'2	3'9	4'5	10'5
Premature Birth .. . . . . .	24'0	20'5	20'7	22'8	30'0	23'9	30'9	26'6	23'7	22'5	25'7	25'3
Atrophy, Debility and Marasmus .. . . . . .	19'3	25'4	22'1	15'0	16'4	12'9	7'9	16'3	18'0	14'2	14'2	10'9
Other causes .. . . . . .	6'5	12'3	7'4	10'6	8'2	9'2	10'3	9'2	9'9	7'1	9'6	9'5

## APPENDIX 41.

## Infantile Mortality in Wards from 1914 to 1923.

WARD.	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	Average for 10 years
St. Stephen's	121	144	83	86	145	116	136	92	67	56	104
Trinity ...	144	193	119	102	121	118	117	130	129	163	133
St. Michael's	131	130	98	93	113	53	106	83	78	105	99
St. John's	84	125	141	103	133	129	111	140	76	75	111
St. Silas'...	40	72	98	73	100	51	53	59	69	50	66
St. Paul's	100	114	110	135	146	90	124	134	133	130	111
St. Peter's	129	184	96	180	147	68	197	114	170	91	137
St. Mary's	142	194	157	127	213	131	138	98	138	128	146
St. Matthew's	140	160	72	111	118	75	100	127	111	90	110
St. Thomas's	80	139	88	112	75	88	90	106	71	130	97
Park .....	138	128	212	142	157	101	125	108	69	110	129
St. Luke's	140	183	147	101	122	117	99	99	116	74	119
St. Mark's	80	93	175	111	97	95	73	129	106	85	104
St. Andrew's	120	175	124	84	91	75	81	87	72	81	99
Borough	116	145	121	110	125	94	110	109	98	100	112



## APPENDIX 42.

## VISITS PAID BY HEALTH VISITORS.

	1923.	1922.
Total Visits .....	22978	20507
VISITS TO EXPECTANT MOTHERS :—		
First visits .....	190	174
Re-visits .....	194	178
Ineffective visits .....	17	16
INFANTS UNDER ONE YEAR :—		
First visits .....	2071	2063
Re-visits .....	8167	7725
Special visits .....	356	305
Ineffective visits .....	1300	1494
INFANTS AGED ONE YEAR :—		
Re-visits .....	4260	3347
Special visits .....	134	95
Ineffective visits .....	812	688
CHILDREN (2—5 YEARS) .....	2174	1406
OPHTHALMIA NEONATORUM :—		
First visits .....	19	22
Re-visits .....	47	31
DIARRHŒA :—		
First visits .....	21	8
Re-visits .....	41	16
HOUSES WHERE DEATHS UNDER ONE YEAR OCCURRED .....	145	154
HOUSES WHERE DEATHS OVER ONE YEAR OCCURRED .....	38	—
STILLBIRTHS .....	95	89
MINOR INFECTIOUS DISEASES .....	79	668
DOCTORS' ACCOUNTS .....	60	30
SANITARY DEFECTS REPORTED .....	91	68
MILK (MOTHERS AND CHILDREN) ORDER VISITS ...	433	893
MISCELLANEOUS VISITS .....	254	408

## TUBERCULOSIS :—

	1923.		1922.	
	Pulmonary.	Non Pul'ary.	Pul'ary.	Non Pul'ary.
<i>Civilian Cases :—</i>				
First visits .....	2	1 .....	12	10
Re-visits .....	558	227 .....	387	204
Special visits .....	16	3 .....	2	—
Ineffective visits .....	105	29 .....	85	51

*Ex-Service Cases :—*

First visits .....	—	— .....	3	—
Re-visits .....	130	17 .....	113	—
Special visits .....	—	— .....	—	—
Ineffective visits .....	27	1 .....	41	—

## MIDWIVES :—

	1923.	1922.
Routine visits .....	83	73
Special visits .....	36	26
Ineffective visits .....	72	60

## CLINIC SESSIONS :—

Maternity and Child Welfare Clinics .....	570	549
Regional Medical Officer's Clinics .....	94	127

## APPENDIX 43.

ST. PETER STREET MATERNITY HOME : FROM  
JANUARY 1ST TO 31ST OCTOBER, 1923.

1.	Total No. of Cases admitted .....	83
2.	Average duration of stay ..... days	14
3.	(a) No. of cases delivered by Midwives .....	62
	(b) No of cases delivered by Doctors .....	21
4.	No. of cases in which medical assistance sought by the mid- wife with reasons for requiring assistance :—	
	(a) Ante-natal .... Nil.	
	(b) During labour 17 Forceps deliveries.	
	(c) After labour ... 7 Ruptured perineums.	
	(d) For infant ..... 3 (2 phimosi, 1 atelectasis).	
5.	No. of cases notified as puerperal sepsis with result of treat- ment in each case .....	Nil.
6.	No. of cases in which temperature rose above 100.4 for 24 hours with rise of pulse .....	Nil.
7.	No. of cases notified as ophthalmia neonatorum with result of treatment in each case .....	Nil.
8.	No. of cases of “inflammation of eyes,” however slight ...	Nil.
9.	No. of infants not entirely breast-fed while in the Insti- tution with reasons why they were not breast-fed 7	{ 3 Elderly primiparæ. 2 Breast milk insufficient. 1 Advanced phthisis. 1 Advanced cardiac disease.
	These were all Doctors' cases, and breast feeding was supplemented in each case with the Doctor's consent.	
10.	No. of maternal deaths with causes .....	Nil.
11.	No. of foetal deaths (still- born or within 10 days of birth) and their causes—and the results of the post- mortem examination if ob- tainable ..... 4	{ 1 Impacted breech, elderly primi- para. 1 Death aged 18 hours, atelectasis. 1 Patient with chronic nephritis; the macerated placenta was sent for examination; report negative for syphilis. 1 First-born of twins was still- born for no apparent reason.

## APPENDIX 44.

SPRINGFIELD MUNICIPAL MATERNITY HOME: FROM  
1ST NOVEMBER TO DECEMBER 31ST, 1923.

1. Total number of cases admitted (*including 1 hyperemesis gravidarum) .....	25
2. Average duration of stay ..... days	14
3. (a) No. of cases delivered by Midwives .....	23
(b) No. of cases delivered by Doctors (doctor engaged beforehand) .....	1
4. No. of cases in which medical assistance was sought by the midwife with reasons for requiring assistance :—	
(a) Ante-natal .....	1
(b) During labour	Nil.
(c) After labour ...	4     Ruptured perineum 3, eclampsia 1.
(d) For infant .....	2     (1 spina bifida, and 1 losing weight rapidly).
5. No. of cases notified as puerperal sepsis with result of treatment in each case .....	Nil.
6. No. of cases in which temperature rose above 100.4 for 24 hours with rise of pulse rate .....	Nil.
7. No. of cases notified as ophthalmia neonatorum with result of treatment in each case .....	Nil.
8. No. of cases of “inflammation of the eyes,” however slight	Nil.
9. No. of infants not entirely breast-fed while in the Institution with reasons why they were not breast-fed .....	1     Mother eclamptic and milk supply insufficient.
10. No. of maternal deaths with causes .....	Nil.
11. No. of Foetal deaths (still-born or within 10 days of birth) and their causes—and the results of the post-mortem examination if obtainable .....	Nil.

Two women convalescent after confinement were transferred from St. Peter Street Maternity Home there on the 31st October, and are not included in the above.

\*NOTE.—Abortion at the third month was induced by the private doctor, who sent in the case of hyperemesis gravidarum.

## APPENDIX 45.

CONDITIONS FOR WHICH DOCTORS WERE SUMMONED  
IN AN EMERGENCY BY MIDWIVES.

PREGNANCY—		OTHER CAUSES—	
Eclampsia .....	2	Adherent Placenta .....	4
Varicosities of leg .....	2	Retained Membranes .....	3
Ill-health .....	1	Miscarriages .....	6
Albuminuria .....	3	Ruptured Perinæum .....	87
— 8		Hysteria .....	1
DURING LABOUR—		Patients' Request .....	7
Malpresentations :		—108	
Tranverse .....	2	PUERPERIUM—	
Face .....	6	Phlebitis .....	3
Cord Prolapse .....	2	Collapse .....	2
Breech .....	4	High Temperature .....	5
Foot .....	1	Foul Discharge .....	1
Presentation not diag- nosed .....	1	Other Causes .....	12
Occipito-Posterior .....	3	— 23	
Placenta Praevia .....	5	— 24	
— 24		OBSTRUCTED LABOUR—	
Contracted Pelvis .....	4	CHILD—	
Small Pelvis .....	1	Inflammation of eyes .....	18
Obstructed Labour .....	23	Spina Bifida .....	5
Rigid Perinæum .....	3	Premature Birth .....	10
Rigid Cervix .....	4	Hæmorrhage per rectum ...	1
Narrow Passages .....	3	Feebleness .....	25
Impacted Head .....	2	Rash .....	1
Impacted Breech .....	3	Convulsions .....	2
— 43		Malformation .....	2
DELAYED LABOUR—		Hare Lip and Cleft Palate	3
Uterine Inertia .....	12	Cyanosis .....	3
Protracted Labour .....	13	Jaundice .....	1
Delayed Labour .....	46	Phimosis .....	3
— 71		Tongue-Tie .....	2
HÆMORRHAGES—		— 76	
Threatened Abortion .....	2	Total .....	
Ante-partum Hæmorrhage	6	368	
Post-partum Hæmorrhage	7		
— 15			



## APPENDIX 46.

## WORK OF PUBLICITY COMMITTEE, 1923.

Date.	Where Lecture Held.	Title.	Attendance.
Jan. 4	North of England Education Conference, Blackburn .....	Sanitary and Hygienic requirements for Schools ...	D. 200
„ 16	Assembly Hall (Dr. John Hay) .....	Heart Disease and Its Prevention .....	1450
„ 17	St. John's Ambulance Association ...	Treatment of Wounds .....	R. 120
Feb. 6	St. John's Ambulance Association ...	Milk .....	B. 120
„ 11	Palace Theatre .....	Health .....	D. 800
„ 15	Mill Hill Congregational School ...	Mind .....	R. 150
„ 20	Assembly Hall (Dr. C. H. Bond) ...	Mental Health and Its Preservation (Lecture I.).	1000
Mar. 7	St. John's Ambulance Association ...	The White Scourge (Men only) .....	D. 80
„ 11	Blakey Street Mission .....	Preservation of Health .....	D. 60
„ 20	Assembly Hall (Dr. C. H. Bond) .....	Mental Health and Its Preservation (Lecture II.).	800
Apr. 8-15	Cinema Lorry Campaign, including:—		
„ 8	Princes Theatre .....	Venereal Diseases .....	1500
„ 9	Greenbank Iron Works .....	„ „ .....	350
„ 9	Belper Street Hall .....	„ „ .....	500
„ 10	Canal Foundry .....	„ „ .....	300
„ 10	Christ Church School .....	„ „ .....	600
„ 11	Phoenix Iron Works .....	„ „ .....	150
„ 11	Bangor Street School .....	„ „ .....	650
„ 12	Greenbank Gas Works .....	„ „ .....	80
„ 12	Northrop Loom Works .....	„ „ .....	200
„ 12	Harrison Institute .....	„ „ .....	600
„ 13	Blackburn Loom Co. Works .....	„ „ .....	150
„ 13	Furthergate School .....	„ „ .....	750
„ 14	King George's Hall .....	„ „ .....	3000
„ 15	Princes Theatre .....	„ „ .....	3000
„ 25	After-Care Committee .....	Youth and Employment ...	R. 80
Sep. 24	St. Thomas' School .....	Modern Outlook on Medicine .....	F. 80
„ 24	Blackburn Rotary Club (Dr. Cyril Banks) .....	National Health and Individual Responsibility .....	40
Nov. 2	Domestic Science School .....	Milk .....	B. 150
„ 6	St. John's Ambulance Association ...	Infectious Diseases .....	L. 150
„ 13	King George's Hall (Mr. G. Thomson) .....	Care of Teeth (Cinematograph) .....	500
„ 20	Park Road Women's Guild .....	Food .....	D. 100
Dec. 12	Assembly Hall (Professor Stirling)..	Eyesight .....	1100
„ 4	St. John's Ambulance Association ...	Food Inspection .....	B. 120

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## Lectures out of Borough.

Mar. 25	Princes Theatre, Preston .....	Venereal Diseases .....	D.
June 26	Salop County Council .....	Beginnings of Disease .....	D.
July 3	Infant Mortality Conference, London	The Value of Maternity Homes in Maternity and Child Welfare Work .....	D.
Aug. 1	Royal Sanitary Institute Congress, Hull .....	Prevention of Cancer .....	D.

Date.	Where Lecture Held.	Title.	Attendance.
Sep. 10	Halifax Rotary Club .....	Improvement of Public Health as a Business Proposition .....	D.
„ 11	Chorley Health Exhibition .....	The Need for Public Health .....	D.
Nov. 5	Wesleyan Guild, Great Harwood ....	Modern Outlook on Medicine .....	F.

In addition to the above several series of addresses on Mothercraft have been given to girls attending the Domestic Science School, Preston New Road, by Dr. Mackenzie and the Health Visitors.

D. Lectures by Medical Officer of Health.

R.	„	Dr. Robertson, Asst. M.O.H. (Schools).
B.	„	E. J. Burndred, Veterinary Inspector.
F.	„	Dr. Frazer, Asst. M.O.H. (Schools).
L.	„	Dr. Lamont, Asst. M.O.H. (Tuberculosis)





